

OWNER: DG TAXUD	ISSUE DATE: 03/11/2017	VERSION: 2.80-EN
EUROPEAN COMMISSION TAXATION AND CUSTOMS UNION DG ITSM SUBJECT: Guidelines for National Service Desk Set-up and Operation for Customs Trans-European Systems (ITSM2_LOT2-QTM-08-SC05-GDL-eCUST-NSD.OPS)		
FRAMEWORK CONTRACT # TAXUD/2012/CC/113 SPECIFIC CONTRACT 05		

Status: **Submitted for Acceptance by ECCG.**

Published on [CIRCABC](#) (Library > 01_Common_NCTS_ECS_ICS > 01_TOC_SLA)

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DOCUMENT HISTORY

Edi .	Rev.	Date	Description	Action (*)	Pages/Section
0	10	07.01.2004	First draft. Submitted for internal review.	I	All
0	20	15.01.2004	Second draft, incorporating additional sections and initial internal review comments.	I	All
0	30	16.01.2004	Implementing internal review comments. Submitted to Taxation and Customs Union DG for review.	I/R	As needed
1	00	26.01.2004	Implementing review comments. Submitted to Taxation and Customs Union DG for acceptance.	I/R	As needed
1	10	15.04.2004	Implementing NA's review comments. Submitted to Taxation and Customs Union DG for acceptance.	I/R	As needed
1	20	26.04.2004	Implementing review comments. Submitted to Taxation and Customs Union DG for acceptance.	I/R	As needed
1	30	05.02.2009	New version to cover the e-Customs (NCTS, ECS, ICS and EOS). Submitted to Taxation and Customs Union DG for acceptance.	I	As needed
1	31	07.04.2010	Submitted to DG TAXUD for acceptance	I	As needed
1	40	07.08.2012	Submitted to DG TAXUD for acceptance	I	As needed
1	50	10.09.2013	Revision of the document to add the e-Customs systems COPIS and SW-CVED, update the references to CIRCABC and perform other QA enhancements/corrections. Submitted to DG TAXUD for review.	I/R	As needed
1	60	18.11.2013	Version sent to MS for their review.	I/R	As needed
2	00	03.02.2014	Implementing MS review comments.	R	p.11
2	10	13.05.2014	Minor corrections - Submitted to DG TAXUD for acceptance.	I/R	As needed

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Edi	Rev.	Date	Description	Action (*)	Pages/Section
2	20	03.03.2015	Minor (cosmetic) annual update. Submitted to DG TAXUD for review.	I/R	1.4.1 (table 1), 1.4.2 (table 2), 1.5.1 (table 3), 1.5.2 (table 4), 3.1 (figure 1), 4.3.3, 5.1.3.1 (table 8), 5.1.7.1
2	30	10.04.2015	Implement Review comments. Submitted to DG TAXUD for Acceptance. Published on CIRCABC for review by the National Administrations (Accepted after positive review completed on 29/06/2015).	I/R	As needed
2	40	03.03.2016	Revision of the document to add MASP projects including UUM&DS, Customs Decisions, REX, CTA, CS/RD2 and CCN2 and perform other QA enhancements/ corrections. Submitted to DG TAXUD for review.	I/R	As needed
2	50	05.04.2016	Implement Review comments. Submitted to DG TAXUD for Acceptance.	I/R	As needed
2	60	28.02.2017	Annual Revision of the document to include the process flow of CSD and the MASP projects UUM&DS, Customs Decisions, REX, CS/RD2 and CCN2. Submitted to DG TAXUD for review.	I/R	As needed
2	70	28/03/2017	Implement Review comments. Submitted to DG TAXUD for Acceptance.	I/R	As needed
2	80	03/11/2017	Implementing three comments from NA-DE in section 1.4.2 / 3.1.2.1.2 / 4.2.2. <i>Applicable Documents</i> re-synchronised. Submitted to ECCG for Acceptance.	I/R	As needed

(*) Action: I = Insert R = Replace

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Management Summary

This document was initiated for NCTS following a request raised by the National Administrations (NAs) in the 2nd Evaluation Workshop, held on 4th and 5th of November 2003 in Berlin. It has been extended to cover ECS, following a request raised by the National Administrations (NAs) in the 1st ECS Evaluation Workshop, held on 17th and 18th of April 2008 in Prague. The document covers ICS, EOS and SYNERGIA. The update of 2013 covered the use of the European Union Single Window - Common Veterinary Entry Document (EU SW-CVED) Customs TES. In the update of 2015, AEO-EORI references were replaced with EOS. In the update of 2016, the document was extended to also include recommendations for the specific procedures that involve systems like UUM&DS or Customs Decisions and REX. It offers consistency with the SLA on Service Desk.

It can be used by all parties that validated the Terms of Collaborations (ToC) for the Customs Trans-European Systems [[AD01](#)].

The document is a best practice guide on how to set up and operate a National Service Desk (NSD). It proposes an adequate organisation for the NSD team and discusses the rules and procedures that could govern the daily operations of the NSD. This includes the procedures for registering and following up incidents, notifications and escalation mechanisms, and gives details of the fallback procedures for situations when the National Service Desk tool is unavailable.

The document also defines the interface of the NSD with the Central Service Desk (CSD), operated by the ITSM Contractor of DG TAXUD for the e-Customs project, as well as the interface between a NSD and the other NSDs.

The first version of the document was based on one trans-European system (TES)¹. Subsequent versions of the document also took into account the various options offered to the National Administrations to organise the Service Desk(s) in the e-Customs context (one NSD per TES vs. one NSD for all or multiple Customs TES). The current version is produced in the context of the annual improvement of the document.

Finally, a number of Annexes are included, which, amongst other things, discuss the functionality that should be offered by a Service Desk Management Tool (SMT). The purpose here is not to provide the complete specifications for a Service Desk Management Tool, but rather to assist the NAs in evaluating available solutions and select the proper tool for their NSD(s).

¹ An overview of the trans-European system is given in TEMPO (see [[RD01](#)])

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1. Introduction

1.1 Purpose of this Document

The purpose of this document is to present a best practice guide that can be used by the National Administrations (especially those that have recently or are about to set up a NSD) and to assist them in operating one or more National Service Desk(s) (NSD) in the framework of the e-Customs projects. The document highlights the rules and procedures that should govern the daily operations of a service desk. It also defines the interface with the Central Service Desk (CSD), operated by the ITSM Contractor for the e-Customs projects, and the other NSDs.

This document has been produced by capitalising on the knowledge and experience that the Central Project Team (CPT) has acquired with the Customs Movement Systems (ECS, ICS and NCTS) through the running of the CSD and by using, where appropriate, the guideline document for CSD procedures.

1.2 Target Audience

The intended audience for this document is:

- for the National Administrations:
 - the persons who will be involved in the set-up and operation of a NSD, including;
 - the National Project Managers (NPM);
 - the National Operations.
- for DG TAXUD:
 - the members of the Central Project Team (CPT);
 - the contractors in charge of the ITSM, the development, the CCN, the quality control and audits.
- and
 - any other individual, organisation or third party involved in providing the service.

Readers of this document are assumed to:

- Have a comprehension of the e-Customs (including NCTS, ECS, ICS, EOS, COPIS, UUM&DS, CDMS, REX and EU SW-CVED) operational environment²;
- Understand the interactions with the CSD for matters related to requests for support³;
- Be familiar with the ITSM Portal and the SYNERGIA services.

1.3 Structure of this Document

A management summary briefly explains the purpose and the context of this document. The rest of the document is structured as follows:

- Chapter 1 is an introduction to this document containing the reference and applicable documents and the terminology;

² See information published on CIRCABC at <https://circabc.europa.eu/w/browse/e872017c-0178-465a-b884-6f1fcd0d175e>

³ See on-line trainings available at <https://itsmtaxud.europa.eu/>

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- Chapter 2 presents the scope and objectives of the NSD;
- Chapter 3 outlines the context of the NSD operation;
- Chapter 4 describes issues related to the organisation and management of the NSD;
- Chapter 5 describes the main operational procedures of the NSD;
- Chapter 6 illustrates the procedures internal to a NSD;
- Appendix A.1 presents other activities and/or provides other information pertinent to the NSD operation;
- Appendix A.2 proposes a list of requirements that a Service Desk Management Tool should satisfy;
- Finally, Appendix A.3 proposes some metrics and quality indicators that can be used to measure the quality of the services offered.

1.4 Terminology

1.4.1 Abbreviations and Acronyms

A list of abbreviations and acronyms used throughout this document are provided here for a better understanding of the document.

Acronym	Description
BPMN	Business Process Modelling Notation
CCN/CSI	Common Communication Network/Common Systems Interface
CCN2	Common Communications Network 2 (middleware)
CDMS	Customs Decisions Management System
CET	Central European Time
CI	Configuration Item
CIRCABC	Communication and Information Resource Centre for Administration, Businesses and Citizens
COL	Customs Office List
COPIIS	anti-COunterfeit and anti-Piracy Information System
COTS	Commercial Off the Shelf Software
CPT	Central Project Team
CRS	Customer Reference System
CTA	Conformance Testing Application
CS/MIS	Central Services / Management Information System
CS/RD	Central Services / Reference Data
CS/RD2	Central Services / Reference Data 2
CSD	Central Service Desk
CT	Conformance Testing
CUST/DEV contractor	DG TAXUD contractor responsible for the production and maintenance of technical and security specifications and development

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Acronym	Description
	and maintenance of the centrally developed applications
DDNA	Design Documentation for National Applications
DDCOM	Design Document for Common Operations and Methods
DG TAXUD	Directorate General of Taxations and Customs Union
DQR	Delivery and Qualification Report
ECS	Export Control System
EDIFACT	Electronic Data Interchange for Administration, Commerce and Transport
EO	Economic Operator
EORI	Economic Operators Registration and Identification
EOS	Economic Operator System
ESS	Employee Self Service
EU SW-CVED	European Union Single Window – Common Veterinary Entry Document
FSS	Functional System Specifications
NIAM	National Identity and Access Management System
ICS	Import Control System
IRF	Incident Report Form
INC	Incident
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITSM	IT Service Management
ITSM/Business Monitoring	DG-TAXUD contractor responsible for the monitoring of the Business
ITSM/CCN-OPS	Information Technology Service management / Common Communications Network - Operations
ITSM Contractor	DG TAXUD contractor responsible for operating Central Services and testing the centrally developed applications
MCC	Minimal Common Core
N/A	Not Applicable
NA	National Administration
NCA	National Customs Application
NCTS	New Computerised Transit System
NECA	National Export Control Application
NEOS	National Economic Operator System

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Acronym	Description
NICA	National Import Control Application
NPM	National Project Manager
NSD	National Service Desk
NSDM	National Service Desk Manager
NTA	National Transit Application
N-CDMS	National Customs Decisions Management System
QA	Quality Assurance
REX	Registered Exporters System
RFC	Request for Change
SAT	Site Acceptance Test
SDO	Service Desk Operator
SLA	Service Level Agreement
SMT	Service Desk Management Tool
STTA	Standard Transit Test Application
SYNERGIA	European Commission - Taxation and Customs Union - Synergia SMT – ESS (https://itsmtaxud.europa.eu/smt/ess.do)
TEMPO	Quality Management System of DG TAXUD IT (TAXUD Electronic Management of Projects On-line)
TES	Trans-European Systems
TOC	Terms of Collaboration
TTA	Transit Test Application
UUM&DS	Uniform User Management and Digital Signatures
XML	eXtended Markup Language

Table 1: Abbreviations and acronyms

1.4.2 Definitions

A number of definitions are considered necessary for the better understanding of this document and the scope and services offered by the CSD and the NSD.

Term	Definition
Application	Software that provides Functions that are required by an IT Service. Each Application may be part of more than one IT Service. National Applications are developed and maintained by National Operations teams, UUM&DS is developed and maintained by DIGIT, while Central Applications by the CUST/DEV Contractor of DG TAXUD.

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Term	Definition
Assignment Action	For each call opened at the CSD or NSD that cannot be resolved immediately by the 1st level Service Desk, an <i>Assignment Action</i> is assigned to the 2nd level Service Desk or another Service Desk to proceed with the analysis of the call. From that point on, the SDO assigns, as needed, actions to involved parties, until they are confident that a satisfactory solution to the call has been reached.
Blocking Call	Call or Incident related to one application, preventing from performing further the customs clearance.
Call	Each request for support to the Service Desk is raised by an <i>Issuer</i> . This request is logged by the 1st level SDO in the form of a call, which incorporates standardised information related to the specific request.
Call Category	The call category identifies the nature of each call.
Call Context	Incidents may be encountered and reported as calls during several operation phases. The call context identifies the operation phase under which the specific incident is reported (e.g. "pSAT", "SAT", "Conformance Testing", "Operation").
Call Issuer	The <i>Call Issuer</i> is the person who is registered in the SMT and submits the call to the CSD/NSD.
Central Service Desk	The CSD is a function of the ITSM operations. The CSD provides a single entry point for NSDs. Incidents, Problems or Requests are documented, resolved or dispatched by CSD staff, referring to the level of support (first/second/third level support) needed.
Change	The addition, modification or removal of anything that could have an effect on IT Services. The scope should include all IT Services, Configuration Items, Processes, Documentation, etc. For any potential change in technical/security specifications or features of either the centrally developed applications (that are maintained by the CUST/DEV Contractor of DG TAXUD), or the UUM&DS (that is maintained by DIGIT), a new RfC submission form should be completed. This form is used to optimise the process of collecting the requests for change. The template can be found on CIRCABC under the following link: https://circabc.europa.eu/w/browse/ea9b6600-4443-44e4-b209-e4dc02fde1f7
Duplicate call	A call is considered to be a duplicate if its description matches the one of a previous call or if the analysis of the cause of the incident concludes it is a duplicate. Note the previous call could have been resolved or still being analysed.
EC Business Days	From Monday to Friday, except 01/01 and 25/12, irrespective of any official or national holidays.

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Term	Definition
EC Business Hours	07:00 – 20:00 CET of each EC Business Day.
Known Error	All identified issues, not yet resolved, are recorded in the CSD SMT tool as “known errors”. These known errors might be consulted via the ITSM Portal: https://itsmtaxud.europa.eu/cms//callcenter
Incident	Any event reported as part of the standard operations (central or national) that causes, or may cause, an interruption to, or a reduction in, the quality of the overall service. In SMT terms, the Incident can be the result of an escalated Interaction (see Interaction).
Interaction	Every user contact with the ITSM Support is logged as an Interaction. These Interactions can be escalated to Incidents, Service Requests, Requests for Information and Requests for Changes reported by users who communicate with the ITSM2 Support by using preferably the ESS or another existing communication channel (e-mail, phone or fax).
Issuer	An Issuer is every user that requests support from a Service Desk and submits an issue to be registered in SMT by the Call Issuer. An Issuer may be Economic Operators and their Representatives (including users from both EOs and Representatives) registered in the NIAM of this Member State, National parties or another NSD. An Issuer may also be the CSD (i.e. an action part of a call issued by another NA or by the Commission).
Known Error	A Known Error is a Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management.
Levels of Service Desk	The Service Desk (CSD and NSD) is organised in three levels: <ul style="list-style-type: none"> • 1st level Service Desk; • 2nd level Service Desk, and • 3rd level Service Desk. <p>The responsibilities of each Service Desk level are defined in 5.1.4.</p>
NA Business Days	By default, from Monday to Friday, excluding public holidays. Could be any five (or more) consecutive days defined by the National Administration, during which the customs activity is maximum.
NA Business Hours	Hours defined by each National Administration as a 12 hours (or more) timeframe in accordance with the local time and the local trader culture. This timeframe has to cover the business hours during which an unavailability of application/service can have a major impact, and it is not necessarily linked to the physical presence of the National Service Desk.

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Term	Definition
National Service Desk	A service component of the National Support Centre provided by every NA to provide support to both internal end-users (NA officers) and external end-users (local Economic Operators) in the daily use of the National Customs Application(s).
Priorities (Call __)	The <i>Priority of the Call</i> provides an indication of the urgency and impact on operations of the reported incident. The call priorities can be "Critical", "High", "Medium" and "Low".
Problem	A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created and the Problem Management Process is responsible for further investigation.
Resolver	An Assignment action may be opened for any e-Customs involved party. This party becomes the resolver (owner) of the specific action. When this party provides a final solution to the problem raised under a call, then the action owner and the call resolver are concurrent. The <i>Resolver</i> is expected to provide resolution/analysis to the action or call within a pre-defined time interval.
Status (Assignment action __)	The <i>Assignment action Status</i> attributes are used as a means of tracking the progress of a specific action at all times.
Status (Call __)	The <i>Call Status</i> attributes are used as a mean of tracking the progress of a specific call at all times.

Table 2: Definitions

The other terms used in this reference manual are compliant with the TEMPO Glossary of Terms [\[RD03\]](#).

1.5 Reference and Applicable Documents

1.5.1 Reference Documents

Reference documents are those explicitly mentioned in the text of this document.

The reference documents are presented in Table 3.

Ref.	Title	Originator	Version	Date
[RD01]	TEMPO - Glossary of Terms TMP-GEN-GLS	DG TAXUD	3.11-EN	31.01.2014
[RD02]	ITIL – Service Delivery	Office of Government Commerce (OGC)	3	2011
[RD03]	TEMPO - Glossary of Terms TMP-GEN-GLS	DG TAXUD	3.11-EN	31.01.2014
[RD04]	TEMPO Service Desk Management Lifecycle TMP-REF-SDM	DG TAXUD	2.01-EN	10.08.2006

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Ref.	Title	Originator	Version	Date
[RD05]	TEMPO Service Level Management Reference Manual TMP-REF-SLM	DG TAXUD	1.80-EN	11.03.2011
[RD06]	ITSM2_LOT2-SC08-QTM-08-Service Catalogue NA-Customs TES	DG TAXUD	2.70-EN	03.11.2017

Table 3: Reference documents

1.5.2 Applicable Documents

Applicable documents are documents which, whether explicitly mentioned in the text of this document or not, contain binding requirements to this document.

The applicable documents are presented in Table 4.


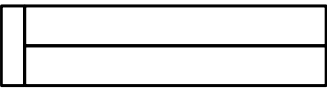


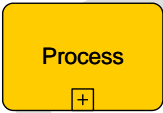
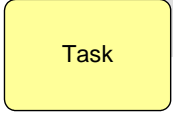
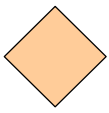
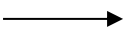

Ref.	Title	Originator	Version	Date
[AD01]	Terms of Collaboration for the Customs Trans-European Systems ITSM2_LOT2-SC05-QTM-08-TOC-eCUST-TES	DG TAXUD	4.80-EN	03.11.2017
[AD02]	Service Level Agreement for Service Desks of Customs Trans-European Systems between the National Administrations and DG TAXUD ITSM2_LOT2-SC05-QTM-308-SLA-eCUST-SD	DG TAXUD	2.90-EN	03.11.2017
[AD03]	Service Level Agreement for Availability and Continuity of Customs Trans-European Systems between the National Administrations and DG TAXUD ITSM2_LOT2-SC05-QTM-08-SLA-eCUST-TES-ACM	DG TAXUD	2.80-EN	03.11.2017

Table 4: Applicable documents

1.6 How to Read the Process Diagrams?

The Support Management process is closely based on the corresponding ITIL process, fully described in the ITIL “Service Delivery” book (see [RD02], Chapter 8). Some of the diagrams presented in this guideline are Business Process Diagrams making use of the Business Process Modelling Notation (BPMN), version 1.0. These diagrams show the involved parties and the sequence of actions that each party performs in the context of a process (scheduled unavailability process for example). To allow an easy understanding of the diagrams, the used notation is detailed hereunder. For the sake of clarity, only basic BPMN elements are being used:

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BPMN Notation	BPMN Element Name	Description
	Pool	A pool represents a participant in a process. It acts as a "graphical container" used for partitioning a set of activities from other pools.
	Lanes	Lanes are sub-partitions of a pool, used to organise activities. Lanes can be represented horizontally or vertically.
	Start Event	Event that indicates the start of the process activities.
	End Event	Event that indicates the end of the process activities.
	Sub-process	Represents a sub-process for which the lower level of details is not shown in the diagram.
	Task	Indicates atomic activity within the process, i.e. task which is not broken down to a finer level of detail.
	Gateway	Decision box, used to control the process flow, i.e. to decide whether the process flow must follow one direction or another.
	Sequence Flow	Used to show the order in which activities are performed.
	Association	Used to associate information (e.g. a Data Object) to an Event, an Activity or a Gateway. An Association can be directional (arrow) or not.

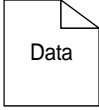
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BPMN Notation	BPMN Element Name	Description
	Data Object	Represents a document (spreadsheet, form, reference manual, etc.) or a database.

Table 5: Business Process Modelling Notation

More information about BPMN can be found on <http://www.bpmn.org/>.

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2. Scope and Objectives of the National Service Desk

2.1 Scope of the National Service Desk

As agreed in the *Terms of Collaboration* [AD01] the National Administrations are responsible to set-up and to operate one or more Service Desk(s) for one or more of the following systems:

- NCTS;
- ECS;
- ICS;
- EOS;
- CDMS;
- UUM&DS;
- REX.

The National Service Desk (NSD) is the national support line to all National e-Customs participants (including the NTA, NECA, NICA, N-CDMS, NIAM and/or NEOS end-users inside the National Administration, the systems developers, the systems testers, the Economic Operators and their Representatives (including users from both EOs and Representatives)).

The National Service Desk(s) is (are) responsible for managing all e-Customs issues at the national level, with the possibility of passing them on to the CSD.

Each National Service Desk:

- Is operated by one NA;
- Forms a liaison (single point of contact) between the CSD and the national participants to one or more e-Customs TES;
- Is responsible for disseminating support information within the National Administration, as well as towards the e-Customs involved parties and external parties involved in the system;
- Receives all the local requests and analyses them in order to determine which of the following scenarios are applicable:
 - The NSD is able to fulfil the national request;
 - The request is related to another Customs TES and is forwarded to another NSD (e.g. one NSD responsible for NCTS receives a request regarding ECS);
 - The request cannot be solved at the national level and it is about a connection problem with the CCN/CSI network. In this case the request is transmitted to the CSD and a call is logged;
 - The request cannot be solved at the national level. In this case the request is transmitted to the CSD and a call is logged.

2.2 Objectives of the National Service Desk

The main objective of the NSD is to deliver a level of support as described in the scope of this document and in accordance with the quality standards applied in the operational environment of the NA.

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The objectives of the NSD are:

- To provide efficient support to the end users in accordance with the NSD service levels described in this document⁴;
- To allow Service Desk Officers (SDO) to develop knowledge and gain experience so aiding the rapid resolution of the reported issues. For example, the SDOs may be in the position to address any of the following items:
 - Read and understand error messages generated by a NCA;
 - Analyse errors and error messages within a defined response time.
- To maintain a knowledge database towards the minimisation – and ultimately elimination – of duplicate requests for support;
- To address and manage the requests for support within the national and common target times defined for the various operations of the NSD.

2.3 Requirements for the National Service Desk

- The NSD acts as one team within the NA and has competence over the whole national territory, for one or more of the Customs trans-European system(s);
- It is at least available during 8 consecutive hours on working days;
- It acts as a single point of contact between the NA and the CSD and/or other NSDs;
- It establishes appropriate levels of support, leading to the resolution of each request;
- It attempts to analyse or resolve the issues reported and distribute this information to the concerned parties;
- It communicates to and informs the CSD on any configuration or operational change that may affect any of its interfaces with the other parties;
- It informs the CSD of any scheduled and unscheduled unavailability;
- It co-operates with other NSDs, on demand from those NSDs or from CSD, in resolving issues and providing service to end-users;
- It keeps records of the requests for support that implicate the specific NA and maintain a knowledge base for these requests;
- It proposes systematic solutions that will lead to the prevention and permanent suppression of issues;
- It provides NSD documentation as proposed in Section 4.4.1 and according to the national administrative needs;
- It assesses on a regular basis the most frequent issues, and advises upon or takes measures for their reduction;
- It cooperates with the Customs Officers in ‘closing’ the movements. It also cooperates in statistical surveys carried out for individual customs offices, with clear indication of the status of the declaration. The NSD also gives advice to the Customs Officers on the

⁴ See [RD03] for the general (TEMPO) reference document on the Service Level Management to be applied.

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possible solutions. The NSD should also cooperate with the other NSDs and DG TAXUD for this issue;

- In summary, the NSD operates according to the procedures described in this document and takes all necessary actions to ensure its smooth and efficient operation, according to the national and Common Service Levels and the targets agreed.

2.4 Services Delivered to and Received by the National Service Desk

The NSD delivers to the NA e-Customs users the service described in this document. The NSD receives the Service Desk related services from the CSD as this is described in the Catalogue of Services to the National Administrations produced by DG TAXUD [RD06]⁵.

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⁵ The service catalogue NA can be found on CIRCABC at <https://circabc.europa.eu/w/browse/15c78259-cbe3-47e9-b0a6-ac4a28fa7c07>.

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3. Context of the National Service Desk

3.1 The e-Customs Context

The following figure presents the relationship of the NSD with the other e-Customs involved parties⁶:



⁶ e-Customs End-Users are actually the Customs Officers, the NCA Administrators and the traders (Economic Operators and their Representatives (including users from both EOs and Representatives)).

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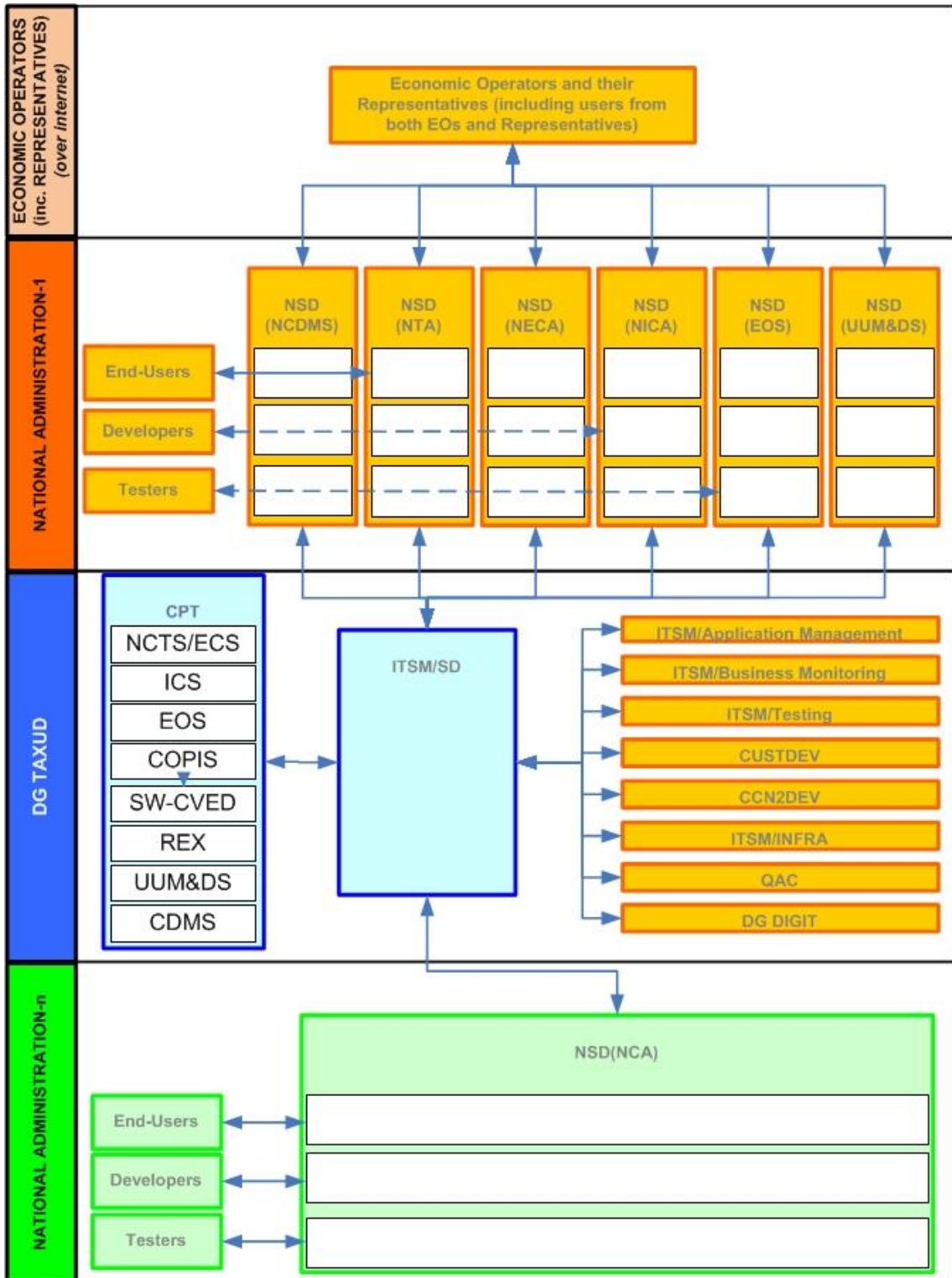


Figure 1: The NSD within the e-Customs context

The figure above illustrates the different organisations that are possible, with NA-1 having defined one NSD per domain (NCTS, ECS, ICS, COPIS, SW-CVED, UUM&DS, CDMS and EOS, while NA-2 has set-up one single NSD covering all domains. The role of NSDs and CSD is crucial for the rapid solution of open questions, issues or problems. For example, one end-

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user in one NA has a question on error messages received from another NCA. The procedures explained below will facilitate the smooth management of these calls.

3.1.1 Calls/Incidents to the National Service Desk

The NSD may receive requests for support from four different sources:

- Internal calls from the national e-Customs participants, including the Economic Operators (EO)⁷ and Representatives acting on behalf of EOs that are registered nationally;
- Actions within calls coming from the CSD;
- Actions within calls originated by another NSDs of the same NA, in charge of another TES;
- Actions within calls originated by the NSDs of another NA, in most cases for the same TES.

On the other hand, the NSD may:

- Initiate calls to the national e-Customs participants, for issues encountered with or reported by the Customs officers;
- Initiate calls for issues encountered with or reported by the traders;
- Assign actions within calls to other NSDs;
- Issue new calls to the CSD.

The requests for support could come via various communication media, mainly e-mail and web-based Service Desk application (but also fax and telephone).

All calls/actions handled between the NSDs should be copied to the CSD who could forward information about the existing incident to the ITSM/Business Monitoring team. In particular, it is strongly recommended to inform ITSM/Business Monitoring about the final solution or the work around applied.

3.1.2 NSD interface with the Central Service Desk

The NSD is the central point of communication between the NA and the national e-Customs involved parties. As part of this communication, the NSD:

- Filters, records and dispatches new requests for support to the CSD;
- Receives confirmation from the CSD on the newly sent requests;
- Assigns actions opened by the CSD, and forwarded to the NA, to the appropriate national e-Customs participants. Also, follows up these actions to ensure a full and timely answer is sent to the CSD;
- Informs the CSD on the resolution of Known Errors (KE) linked to the applications and in general the Configuration Items (CIs), owned by their National Administration;
- Dispatches the analysis or the resolution of the actions to the CSD;
- Monitors the progress of the calls and, where necessary, queries the CSD on their status;

⁷ It also includes the EO employees and Representative employees.

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- Confirms to the CSD that the solution is either satisfactory or unsatisfactory (with reasons) for those calls where the NA is the call issuer.

On other issues, the NSD communicates to the CSD:

- Any change in the configuration information related to the NCA;
- The movement traffic troubleshooting observations;
- The issues encountered with the use of the CS/RD, CS/RD2, CS/MIS, CIRCABC website or the ITSM Portal;
- The NCA unavailability (scheduled or not). The NA must record each scheduled or unscheduled unavailability in the CS/MIS application;
- The start-date, end-date and details related to the fallback procedure, for possible mass-e-mail by CSD to all NSDs;
- The monthly availability reports;
- The Conformance Testing issues;
- The update of the NSD contact information;
- Within the first five (5) working days of each month, the submission of the business statistics by sending the IE411, via CCN/CSI or manual upload in CS/MIS, covering the previous month.

The CSD may contact one or more NSDs in order to inform/provide a workaround/resolution of an issue that affects one or more NAs.

3.1.2.1 The Central Service Desk

A brief description of the role and responsibilities of the CSD is presented in the following sections.

3.1.2.1.1 Roles and responsibilities

Briefly, the Central 1st level Service Desk is responsible for the following items:

- Log all new requests for support in the form of a new call. These requests may either be issued by the NAs or any other e-Customs party, with the exception of the traders who may only issue calls in the NSDs. Should a new request be identified as “duplicate” with another one, both requests will be linked together;
- Manage the interactions, created on-line (via ESS) in SMT;
- Record information provided by the NAs, including the NCA unavailability and the Service Desk contact information;
- Update the distribution lists, for mass communication of Customs TES related information, based on the information received from the NSDs;
- Handle the requests for information, including the availability of documentation, the applicable documentation for each Central Application.

The Central 2nd level Service Desk⁸ is responsible for the following items:

⁸ The Second Level Central Service Desk is managed by ITSM Support, with the help of ITSM/BM and ITSM/AM.

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- Get and maintain the ownership of calls that cannot be solved by the 1st level Service Desk. This involves managing and updating all actions within those calls until their resolution;
- Provide an analysis for each issue reported or respond to requests for information;
- Analyse and communicate information related to rejected message generation in the operational environment;
- Follow up the NCA corrective and evolutive maintenance actions resulting from calls opened to the CSD.

The Central 3rd level Service Desk⁹ is responsible for the following items:

- Provide analysis to issues related to Conformance Testing;
- Respond to requests for diagnosis addressed to the System Specifications team;
- Respond to corrective and evolutive maintenance requests related to the Central Applications;
- Monitor the call solution for requests that lead to implementation in a future version of the central applications.

All Central Service Desk levels contribute to the preparation of service reports, delivered on a weekly and monthly basis, in complement of the on-line reporting facilities available via the ITSM Portal.

3.1.2.1.2 Central Service Desk priorities

The call priority reflects the urgency and impact on operations of the issue reported. The following table defines the priority levels assigned to a new call opened at the CSD.

Call Priorities		IMPACT		
		Low	Medium	High
URGENCY	Low	4	3	2
	Medium	3	2	1
	High	2	1	1

Table 6: Priority assignment at the CSD

Legend:

- (1) = Critical priority call
- (2) = High priority call
- (3) = Medium priority call
- (4) = Low priority call

To help evaluate the impact, the following information should be used:

For Trouble calls:

⁹ The Third Level Central Service Desk is managed by CUST-DEV.

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Non-blocking the customs clearance within the NA.	→ Low
Blocking the customs clearance for one individual, or non-blocking for more than one NA.	→ Medium
Blocking the customs clearance within the NA, or blocking for more than one NA. If UUM&DS is down, there is no access possible to the trader portal. All NAs are potentially impacted, as well as Economic Operators for the Customs Decision.	→ High

For Service calls:

Affecting one NA.	→ Low
Affecting more than one NA.	→ High

To help evaluate the urgency, the following information should be used:

<ul style="list-style-type: none"> • Inquiries on technical, applicative or business aspects of the managed applications and associated documentation; • Minor functions of the managed applications does not work as specified but this doesn't prevent the end users or the NAs of using them; • Issues not blocking customs clearance on the managed applications. 	→ Low
<ul style="list-style-type: none"> • One application or one server down; • Major functions of the managed applications do not work as specified; • Capacity issues; • Requests for Web updates; • User Right Management Requests. 	→ Medium
<ul style="list-style-type: none"> • Incident related to managed applications that are blocking the customs clearance; • europa.eu / DDS2 public website / REX pre-application website down; • Entire domain down; • Transmission of corrupted data; • Confidential information could be divulged and affect the interest of EU or its civil servants; • Calls that can result to financial suffer prejudice of the Commission or other parties; • User rights Management Requests for applications and the ITSM Portal; • Notifications of unscheduled unavailability. 	→ High

Calls related to Conformance testing are defined as Low, Medium or High Priority calls based on the CT mode and the type of request (see more information in the SLA for Service Desks [AD02]).

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Calls related to a new joining country in the context of the preparation of the operations are defined, at least, as Medium Priority calls, considering the possible impact on the effective start date.

The call priority may be downgraded or upgraded at any time during the call life cycle. All Service Desk levels are entitled to request modification of the call priority, provided that a proper justification is submitted for this change.

3.1.2.2 CSD CCN Support

ITSM/CCN-OPS (CSD 2nd level) fully supports the Gateway connection of each country (usually production and backup gateways). The target is the smooth operation of the CCN/CSI network and CCN2 middleware. ITSM/CCN-OPS does not provide support for the e-Customs applications. ITSM/CCN-OPS provides support in the case of connection problems of those applications to the network, and problems related to the transfer of messages through the network.

In addition, ITSM/CCN-OPS may offer technical information related to its operations, such as CSI programming.

NSDs may submit requests for support to ITSM/CCN-OPS via CSD.

The monitoring of the queues is performed by ITSM, and calls are opened in case the number of messages left in the core queues is above a pre-defined threshold, or messages are moved to the dead-letter queue.

For more information, about the ITSM/CCN-OPS procedures, the NSD must contact support@itsmtaxud.europa.eu, NSD must have access to TIVOLI and to the CCN Portal.

3.1.3 NSD interface with other National Service Desks

It is highly advised to systematically contact the CSD to share the information. However, a NSD may directly interact with one other NSD on items concerning their business transactions within NCTS, ECS, ICS or EOS. Specifically,

- The NSD contacts another NSD in case an arrival notice or control results for a movement fails to be received on time (enquiry purposes);
- The NSD contacts one or more NSDs;
 - In case it is necessary to discuss the re-sending of an incomplete or undelivered message;
 - In case it is necessary to co-ordinate the follow-up of movements after technical issues;
 - In order to share information on:
 - Load and statistical data;
 - Configuration issues, backup procedures, resources and infrastructure;
 - Sharing tools, experience, training assistance (training programs).

3.2 Other interfaces of the National Service Desk

In the context of the e-Customs, a NA cooperates with external parties. This cooperation is carefully monitored by the NSD, who selectively disseminates related material nationally, to other e-Customs involved parties, or to the CSD.

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3.2.1 With National Project Team

The NSD needs to be kept up-to-date with the configuration management of the NCA. In particular, the NSD receives from the National Project Team a maintenance list that contains, for each version of the NCA, the details of the component versions, including CCN/CSI and any other external infrastructure components to the e-Customs, the details of the changes, the defect corrected, the planning of the future corrections.

3.2.2 With traders

The interaction between the NA and its traders should be based on quality assured procedures and sound practices. For this reason, it is recommended that the NSD closely monitors this interaction and provides reliable and efficient service in relation to matters affecting the traders.

Sometimes, the impact that an incorrect business decision or technical malfunction will have on one NA internal traders may be more important than when the same malfunction occurred in international communication. For this reason, it is considered unacceptable the fact that the communication between the NA and its traders may fail for a considerable time. The role of the NSD in this aspect is to assist in any way possible and ensure that an alternative means of communication is found and implemented at all times, as well as to follow up the actions taken for a stabilised restoring of the system.

In addition, local (occurring at one Customs Office) or national unavailabilities should be communicated in advance, or in a very short period after occurrence, to the respective customs officers and traders.

Special attention should also be taken from the NSD part for technical issues impacting operations (lost or mistaken records in the Service Desk system). The NSD ensures that the respective trader(s) are notified and that remedy actions are followed well below the response times set for the NSD operation. Ultimately, the NSD informs the CSD about the root causes, and explains the actions taken to prevent similar issues in the future.

It would also be beneficial to the smooth operation and interaction with the traders to maintain a reference environment supervised by the NSD, where information that is of interest to the traders is presented and is accessible at all times. This environment may include any of the following items:

- Monitoring information on the movement status of an MRN;
- Information on scheduled or unscheduled national unavailability that affects trader interaction;
- Fallback procedures information;
- A complete set of rules, conditions and reference data, which are valid for the version of the NCA that is in operation and is used by the customs officers and by the traders.

In conclusion, the communication with the traders is related to:

- the Common Domain;
- the National Domain;
- the External Domain.

The NSD information to the traders includes:

- unavailabilities in all countries;
- changes in the Customs Office List;

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- modifications of functional and technical specifications;
- the authorised fallback (start- and end-date).

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4. National Service Desk management

The NSD is viewed as a separate entity within the NA. It is considered as the single point of contact to the NA; at national level, it should be regarded as the team responsible for the dissemination of any piece of information related to:

- The system's smooth operations;
- The requests for support circulated within the national e-Customs participants.

As such,

- A National Service Desk Manager (NSDM) should be appointed for each TES;
- The procedures and rules mentioned in this document should be followed in order to ensure a uniform support provided throughout the TES. Nevertheless, this document should be considered as a guideline for the set-up and operation of the NSD. In any case, the approved *Service Level Agreement for Service Desk for Trans-European Systems between the National administrations and DG TAXUD* shall apply to the NSD.

4.1 Setting-up the National Service Desk

A number of steps should be followed, in order to set-up an NSD. The most important activities, which should be accomplished before starting the operation of the NSD, are listed below.

- **Identify the need for resources.** This covers both human and infrastructure resources. More specifically:
 - The tools that need to be purchased and the environment that needs to be set up for the smooth and efficient operation of the NSD are identified at this stage (refer to Appendix A.2– “Specifications for a tool to be used to support the NSD operation”, for some information on the functionalities that a Service Desk tool should offer);
 - The NSD team organisation and resources, for performing the activities and delivering the services required by the NSD, should be identified. Section 4.2 includes a description of some recommended profiles. Concerning the size of the team, it will depend on the expected workload of the NSD and the service targets that the NA will set for its NSD operation. In particular, it must be decided if one single NSD is managing all the NCAs or if a distinct NSD is created for each NCA (intermediate solutions are possible). Decision must also be taken on the teams working in shift or not.
- **Acquire and set up the infrastructure.** This involves purchasing the selected tools and hardware, and setting up the infrastructure, including the necessary office and telecom links (at least, access to CSD (SYNERGIA & the ITSM Portal), ITSM/CCN-OPS and CIRCABC would be guaranteed; e-mail notifications and alerts and web access to the NSD tool, if offered by the tool, should be enabled);
- **Define and document all procedures.** The procedures that will determine the efficient running of a NSD should be clearly defined and documented. The documentation would include any agreed service levels¹⁰ and targets, plus a full explanation of the fallback procedures and when they should be used. In addition, the document could compile, and be used as guidance for, the operational procedures;

¹⁰ See also TEMPO ([AD03]) for more information on the Service Level Management.

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- **Team set-up and training.** The team is set up according to the organisational needs and size as defined above. In addition, all the team members should be trained to use the tools and procedures that would govern the operation of the NSD;
- **Set up the interfaces with the other parties.** Before starting the operation of the NSD, all interfaces should be defined and set up. In particular, the database of contacts should be created, and the groups of authorised persons from CSD and the other NAs that will interact with the NSD are communicated to the NSD (and vice versa).

4.2 NSD team organisation

An adequate team organisation should be established for performing the activities and delivering the services required by the NSD. The different profiles that should compose this team are briefly described below.

4.2.1 Service Desk Manager

The role of the National Service Desk Manager (NSDM) is to design, manage and monitor those methods and responsibilities that allow for a smooth and efficient service. The NSDM:

- Allocates the resources (manpower) required for the everyday operation of the Service Desk depending on the expected request load and movement traffic;
- Decides on the tool(s) to be used for call management, with reporting, browsing and knowledge base facilities;
- Designs and is responsible for the submission of the reports delivered by the Service Desk team to the National Project Manager;
- Regularly measures the productivity of the team through quality indicators or other metrics and plans for proactive and reactive actions towards the improvement of the quality of service;
- Conducts regular service review meetings for better planning of the service management.

4.2.2 Service Desk Operators

The seniority and level of e-Customs knowledge of a Service Desk Operator (SDO) will depend on the range of activities that this person would be asked to perform, under the specific Service Desk level (see below). It is proposed that the SDOs possess specific knowledge, such as:

- Be fluent in English;
- Comprehensive knowledge of the FSS and DDNA;
- Basic to good knowledge of the Customs procedures;
- Basic to in-depth knowledge on the technical architecture of the national e-Customs environment;
- Basic to good knowledge of EDIFACT/XML that would allow for analysing erroneous messages.

Having the knowledge of UUM&DS Functional and Technical Specifications along with knowledge of national IAM processes and procedures, or the knowledge of the UUM&DS administration backend operated by DG TAXUD, the SDO should be able to redirect the calls to either the NSD 2nd level of support, or the ITSM/Support - Central Service Desk.

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4.2.2.1 1st level Service Desk Operator

The 1st level SDO is the backbone of the term “single point of contact”. Therefore, one of the main responsibilities of this SDO is the dissemination of the appropriate piece of information to the respective recipients. In addition, the 1st level SDO performs the following tasks (see also section 5.1.4.1):

- Receives and records a new request for support;
- Checks that the minimum information required to log a call is received and the priority can be defined;
- Checks on whether the new call is duplicate and can be closed by reference to a previous call;
- Decides whether the call would be treated internally by the NSD or would be dispatched to the CSD;
- Resolves the call if it is able to, or escalates the call to the national 2nd level Service Desk;
- Receives and disseminates all material (analyses, logs, solutions, etc.) related to this call from the call owner to the call issuer (or action owner) and vice versa;
- Issues reminders to the respective action resolver or call issuer when the pertinent response time has expired;
- Contributes to the production of the Service Desk deliverables (please refer to Table 7).

4.2.2.2 2nd level Service Desk Operator

The 2nd level SDO receives notifications for new calls or actions from the 1st level Service Desk. Accordingly, the 2nd level SDO:

- Proceeds with all necessary actions related to the ownership of the call;
- Reproduces/analyses/answers the assigned actions depending on the nature of the call;
- Escalates to the appropriate 3rd level Service Desk, if necessary;
- Assigns new actions and monitors the call progress until the call solution has been reached;
- Assesses the answer received to an action and confirms its validity;
- Contributes to the production of the Service Desk deliverables (please refer to Table 7).

4.2.2.3 3rd level Service Desk Operator

The 3rd level SDO receives the actions escalated to 3rd level Service Desk by the 2nd level Service Desk. The 3rd level SDO:

- Upon reception of a new action, assigns it to the appropriate development or specifications team within the NA;
- Monitors the action progress until the action answer has been received;
- Assesses the answer received to an action and confirms its validity;
- Contributes to the production of the Service Desk deliverables (please refer to Table 7).

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4.3 NSD service management

As mentioned above, the establishment of a sound organisation ensures that the NSD operates efficiently. Tasks and responsibilities should be clear to all involved parties and the procedures should be followed and respected. The role of the NSD in an NA organisation is vital, as it is the central point for communicating correctly the issues and it is responsible for the management and the follow-up of all operational issues to ensure their timely and proper resolution.

In the following sections, some standard tasks and responsibilities of the NSD are presented in details.

4.3.1 Single point of contact

The NSD services are provided within a designated physical area specified by the NA. In addition, the NSD constitutes a single point of contact for:

- All the national participants of one or more Customs TES;
- The various parties involved in the Customs TES, by communicating and exchanging material required for the solution of an issue.

A designated functional mailbox, telephone number and fax number are used in every communication to and from the NSD. The NSD is responsible to immediately notify the CSD if a change to the contact information of the NSD occurs.

In addition to the national single point of contact, each e-Customs Involved Party holds its own single point of contact. The contact points for the CPT and the CSD can be found in the CIRCABC website <https://circabc.europa.eu/> or can be requested via e-mail to CSD (Support@itsmtaxud.europa.eu).

4.3.2 Service Desk availability

In order for all the NSDs to be available on the same daily time interval, the common period of international overlap in which all NSDs should be operational is defined in the SLA on Service Desk [AD02]. Operations on a broader schedule are to be organised nationally and are dependent upon the volume, desired quality of service and availability of resources.

It is proposed that the NSD maintains a rotation system as far as the total service provided is concerned. This means that the NSD may be available outside the normal working hours. It is also recommended that back-up personnel are available during the National Public holidays and weekends. The final schedule of the working days and hours outside the common period of international overlap is decided at national level.

4.3.3 Service Desk tool

It is recommended that the NA acquires a Service Desk Management Tool (SMT) to support the NSD processes.

The Appendix A.2 includes a description of the main functionality that such tool should provide. The tool should provide (possibly after customisation) a minimum set of call and action attributes, such as:

Call attributes

- Call ID;
- Call Status;

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- Application and CI in which the reported issue occurred;
- Call Priority;
- Call Title and Description;
- Call Category;
- Call History;
- Call Issuer and call Resolver;
- References to call ID(s) that were opened for similar issues;
- Date opened and Date resolved/closed;
- Attachment(s);
- Solution.

Action attributes

- Action Description;
- Action resolver;
- Assignment Reference Number;
- Assignment action Status;
- Date registered and Date answered;
- Answer / analysis / solution text.

It is proposed that access to the tool and the Service Desk data is restricted to the authorized persons by defining several user profiles (e.g., SDO, NCS developer, NCA Tester, Administrator, National Service Desk Manager, etc.). Finally, a backup policy should be established and followed for the Service Desk database.

4.3.4 Security

The security measures related to the operation of the NSD must be defined at national level, depending on the security rules applied within each NA.

4.4 Quality management

Quality Management refers to the methods, standards, and activities necessary to control the quality of the offered services and deliverables. It ensures that the procedures, standards, and guidelines described for a system have been followed, that the deliverables produced meet the quality criteria specified for that system, and that the execution of those procedures is continuously monitored and improved.

It is the responsibility of the NAs to define the applicable quality standards for measuring the quality of the services offered by the NSD. Examples of metrics and quality indicators for assessing the quality of the services and deliverables are however provided in Appendix A.3 – “Measuring quality of services offered”.

4.4.1 NSD Deliverables

The NSD delivers the following items to the Application Manager during the period of the service delivery. The scope and content of those deliverables should be defined at national level.

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Deliverable	Type	Language	Reference
National document for the Service Desk support	Doc	National language or English	Should be based on the present document.
Weekly Service Report	Doc	National language	NSD.NA-WSR-yymmdd-EN
Monthly Service Report	Doc	National language	NSD.NA-MSR-yymmdd-EN
Monthly National Meeting minutes	Doc	National language	NSD.NA-MIN-MNM[xx]-EN
Participation in international meetings related to Customs TES ¹¹	Meeting	English	N/A (Minutes of those meetings would be provided by the CPT in English)

Table 7: National Service Desk deliverables

A brief description of some of these deliverables follows:

Weekly Service Report

The Weekly Service Report is an informative internal report of the requests traffic. The weekly report may contain the following information:

Statistical analysis data

- Number of non-closed calls, per NCA;
- Number of open calls analysed by the 2nd level Service Desk and presentation of related response times (refer to section 5.1.5);
- Number of calls escalated (new actions assigned) to the 3rd level Service Desk;
- Number of reminders received/sent per level;
- Number of calls received from/transferred/opened to the CSD.

Subject area data

- Number of new calls assigned per category;
- Number of new calls per issuer;
- Number of new calls per category;
- Number of answered calls that lead to a corrective or evolutive amendment to the application(s);
- Number of complaints about the provided services.

Monthly Service Report

Through the Monthly Service Report, the NSDM and National Project Manager monitor whether the corresponding Service Desk activities reach the targets set and review the calculation of the corresponding quality indicators. Those measurable results will trigger any corrective actions.

The Monthly Service Report includes a comprehensive analysis of the calls and actions managed within the reporting month. This includes general information on calls owned by the

¹¹ Including conference call meeting organised by ITSM, and minuted by DG TAXUD's contractor.

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NSD; actions managed by the NSD within these calls, as well as specified information regarding these calls and actions. The proposed implementation of the reporting is as follows:

- Evolution over time reporting:
 - Progress over time of the quality indicators relative to the NSD;
 - Evolution-over-time charts presenting information such as call and action traffic, issuer evolution and call categories/subject areas evolution, over the service period.
- Call and action general information for the reporting month:
 - Number of calls opened this month, closed this month, pending;
 - Respectively, the number of actions opened this month, closed this month, pending;
 - Graphical representation of the following information:
 - Calls owned this month per call issuer;
 - Calls transferred to the next period per “Pending” date (monthly grouping);
 - Actions transferred to the next period per action owner;
 - Actions transferred to the next period per “Pending” date (monthly grouping).
- Call high level information:
 - Distribution of calls opened this month per call category;
 - Distribution of calls opened this month per subject area;
 - NCA releases/patches issued and/or installed during the reporting month.

Monthly National Meeting

It is proposed that a monthly national meeting is organised between the NSD and other national groups involved in the e-Customs projects. This would be particularly interesting in case more than one NSD is set-up in one NA. The aim of this meeting would be to identify areas of improvement to the everyday operation of the Service Desk(s), to discuss the movement troubleshooting, national reference data update planning, the conformance testing progress, or any other administrative matter affecting the NA and which are relative to the operation of the NSD.

International Meetings related to Customs TES

Meetings are organised on an ad-hoc basis, with participants that may include one representative from each NSD, and representatives of the CSD, the CPT and the QA contractor. The purpose of the meeting is to discuss major blocking issues, serious issues encountered on the operations among the NAs and the interaction with Economic Operators and Representatives acting on behalf of EOs that are registered nationally, network issues, UUM&DS, Customs Decisions, REX, CS/RD, CS/RD2 or CS/MIS relevant matters, future SYNERGIA developments/evolutions or any other interesting issue that has come to the attention of the NSDs.

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5. National Service Desk Procedures

Each NSD should operate under strict and thorough procedures. Every incoming request for support should be handled under specific rules; every analysis performed under certain quality standards as well as under a specified time frame; every issue escalation following certain prerequisites; and every solution being verified for validity.

5.1 Service Desk Management

The following sections present in details the recommended procedures and rules that can be followed by the NSD.

5.1.1 Call/Incident Category and Context

The nature of a new request for support is identified once this request is received at the NSD. Identifying the nature of a new request helps the NSD in determining the solution path selected for each call. For example, requests for information should be treated differently from application incidents, since the first implies documentation research and the second implies reproduction of the incident.

A broad first categorisation of requests of support towards the NSD is: the **Internal Calls**, (i.e. calls that are (very likely) managed completely by the NSD), and the calls that will be **dispatched to the CSD**. Regardless of this separation, a call 'Category', 'CI' and 'Context' should be assigned to each call.

Two main call categories should be utilised by the NSD: the Service Calls and the Incidents.

- **Service calls:** Relates to handling of organisational questions and requests for documentation, publications, business information, User Rights Management, management and delivery of translations, organization of conference calls/virtual meetings, remote/onsite technical support, ad hoc support, training management, qualification, conformance testing, testing of full release, installation management notifications of scheduled or unscheduled unavailability and requests for mass emails;
- **Incidents:** Relates to technical incidents (failures or deviation of expected behaviour in software, connectivity, performance, application configuration, operations, capacity management, connection issues, for the managed applications) and they may lead to changes to Specifications and/or NCA as part of corrective maintenance, or they may constitute requests for evolutive maintenance. Calls reporting failed Conformance Testing scenarios also constitute incidents.

Issues may be encountered and reported as calls during several operation phases. Thus, the 'Context' under which a call should be reported might be:

- **FAT** (Internal Calls only);
- **SAT** (Internal Calls only);
- **CONF** (Conformance Tests and International Tests);
- **OPER** (Operations).

In case the request for information is related to:

- specifications approved by ECG, but not yet used in Conformance Testing (TTA or CTA not aligned to this version), then the call context is DEV;

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- specifications approved by ECG, and used in Conformance Testing (TTA or CTA aligned to this version), then the call context is CONF;
- specifications approved by ECG, and the deadline for operations is over, then the call context is OPER.

5.1.2 Call/Incident Priorities

The call priority should reflect the criticality and impact on operations of the reported incident.

For the sake of simplicity, the same priority levels should be defined by all NSDs and be similar to the priorities used by the CSD. The priorities to be assigned to requests for support sent to the NSD, taking into account the urgency and impact of the call are defined in section 3.1.2.1.2.

The call priority may be downgraded or upgraded at any time during the call life cycle. The call issuer and resolver are entitled to request modification of the call priority, provided that a proper justification is submitted for this change.

5.1.3 Call/Incident and Assignment Action Status

5.1.3.1 Call/Incident status

The progress monitoring of each call is achieved through the evolution of the call status. The call status provides initial evidence on the call life cycle. Attributes that are utilised by the NSD for call management should include the minimum following status:

	Status	Description
1	Open	A Call has been created in the database and an ACK mail has been sent to the <i>Call Issuer</i> . The 'Open' status is the initial status given to the Incident when it is created in the SMT tool. This status remains until the incident is assigned for solution. (The term registered could also be used).
2	Owned	The NSD has assigned this incident to NSD internal staff for resolution or action.
3	Dispatched	The Service Desk has assigned the incident to a party, external to the NSD for investigation or resolution.
4	Pending	The NSD requests additional information for the continuation of the resolution. While waiting for the requested information to be delivered, the incident remains 'Pending'.
5	Parked	The solution is agreed to be delivered by a third party in a next release. While waiting for it, the incident remains 'Parked' ¹² .
6	Suspended	This status is used by the SDO only, on incidents where activities must be performed and require scheduling, it stops the reminders on assignments. The assignment of the action stays with the current assignee. If reactivation time is reached on an incident that is Suspended, the status will automatically return to the status before the suspension.
7	Closed	The NSD has received a confirmation from the Call Issuer that the solution is satisfactory. The NSD may also close the incident following agreed automatic closure procedure.

¹² An alternative approach consists in closing the Call and opening a related Know Error (or a defect).

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	Status	Description
8	Resolved	The resolver considers that the Incident can be closed, and the confirmation is requested to the Issuer.

Table 8: National Service Desk incident status

5.1.3.2 Assignment action status

In order for the NSD to monitor the progress of each action, assignment action status attributes should follow the very same rules as defined at the Call Status.

5.1.4 National Service Desk levels

5.1.4.1 1st level Service Desk

The National 1st level Service Desk is responsible for handling all requests for support raised at the NSD and entering the details of those requests in the Service Desk tool. The flowchart below summarises the functions of the National 1st level Service Desk.

1. A new request for support arrives at the NSD. Such requests may be received by phone, fax, e-mail, or recorded directly within the Service Desk tool via e.g. a web client. The “Call Assignment” timer starts as soon as a new request for support arrives. The request may come from the National parties or from the CSD (i.e. an action part of a call issued by another NA or by the Commission);

The 1st level SDO records the new request for support in the NSD tool used for call tracking and reporting and the call status is updated to “Open”. The call issuer is notified that a new call has been created (see 5.1.5.1). Depending on the information provided by the call issuer, the 1st level Service Desk is able to decide:

- Whether the call will be an Internal call or if it will be dispatched to the CSD;
- Whether the new request is a duplicate to an older request;
- Who will be the NSD Call Owner (see also section 5.1.4.2).

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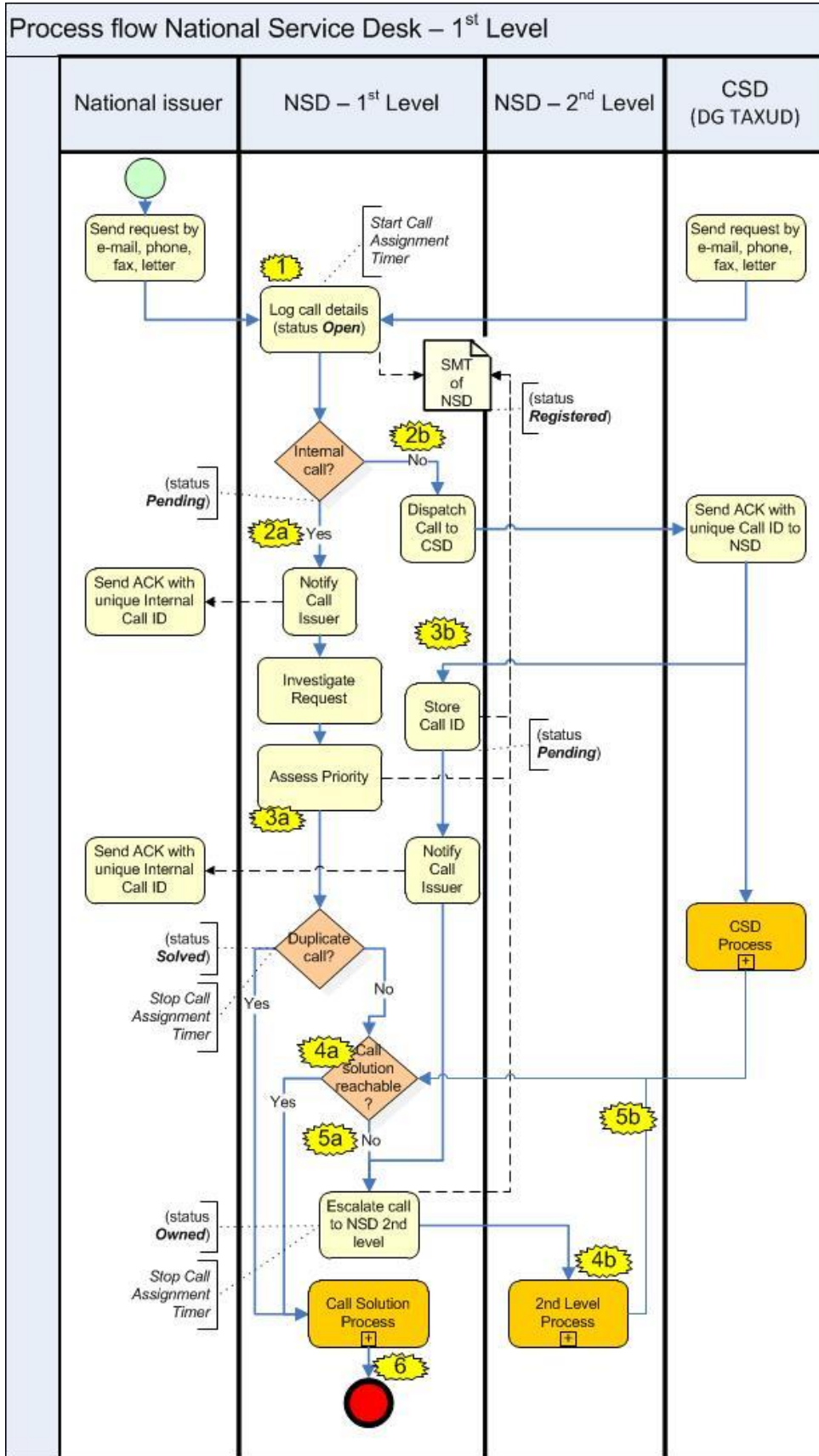


Figure 2: High level process flow of the National 1st level Service Desk

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2. **In case it is an Internal Call**, this is recorded in the SMT and the call status is updated to “Pending”. An (automatic) notification is sent to the call issuer, informing him/her on the Internal Call ID;
 3. The priority of the call is assessed by the 1st level SDO, according to the rules described in section 5.1.2, and the new call is checked for duplication. If the new call is found to be a duplicate to an older one, the 1st level SDO records this information in the NSD tool. The call status is then updated to “Resolved” and the “Call Assignment” timer stops. The 1st level SDO then proceeds with the Call Solution tasks (please refer to section 5.1.8);
 4. If this is a new request to be further processed, then the 1st level Service Desk decides on whether it is capable of providing the call solution, or if the call needs to be escalated to the National 2nd level Service Desk. In the first case, the Call Solution path is followed (please refer to section 5.1.8);
 5. In the latter case, the call is escalated to the National 2nd level Service Desk: a new action is assigned to the 2nd level Service Desk to proceed with the analysis of the call. The ownership of the call is thus passed to the 2nd level Service Desk, which is (automatically) notified accordingly. The action status is “Owned”; the “Call Assignment” timer stops.
1. **In case it is not an Internal Call**, the call needs to be dispatched to the CSD, this is mentioned in the NSD tool, and a notification is sent to the CSD;
 2. When the CSD call ID is received, this detail is recorded in the NSD tool: the call status is updated to “Assigned” and the “Call Assignment” timer stops. An (automatic) notification is sent to the call issuer, informing them on the Call ID. The ownership of the call is then passed to the National 2nd level Service Desk, which is (automatically) notified accordingly;
 3. The National 2nd level SDO acting as the call resolver is now responsible for managing and updating the call in the Service Desk tool until the call solution is reached (please refer to section 5.1.4.2). The role of the 1st level Service Desk is to forward any correspondence related to this call to the various parties involved;
 4. The 2nd level Service Desk acting as the call resolver should put the NSD functional mailbox on copy of all correspondence related to this call;
 5. Once the Call Solution has been reached, the 1st level Service Desk is responsible to follow the corresponding tasks mentioned in the Call Solution step (please refer to section 5.1.8).

In addition to the call registration and action handling, the National 1st level Service Desk, acting as the NA single point of contact, also handles the communication flow to and from the NA passing via the NSD functional mailbox. This exchange of information may include version updates, COL updates, CT and operational planning, etc.

5.1.4.2 2nd level Service Desk

The main role of the National 2nd level Service Desk is to analyse and reproduce the incidents. The secondary role of the National 2nd level Service Desk is to manage and follow up the actions within calls owned by the NSD. Figure 3 depicts the tasks of the National 2nd level Service Desk.

Call management

1. The National 1st level Service Desk passes ownership of **Internal calls** to the National 2nd level Service Desk (see section 5.1.4.1 above). This means that the National 2nd level Service Desk becomes the Call Resolver of the internal call. It is essential that each

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internal call be owned by one 2nd level SDO, who is responsible for the proper follow-up of its progress and solution;

2. The National 2nd level SDO, acting as the call resolver, carries out the following tasks:
 - Performs the call analysis within the first action of the call that is assigned to it by the National 1st level Service Desk, within the time frames allocated by the Service Desk procedures (refer to section 5.1.5);
 - Records information related to the call in the Service Desk tool;
 - Checks at any step of the call life cycle on whether the call solution is reached;
 - Might perform actions related to the Call Solution step (please refer to section 5.1.8).

SFA

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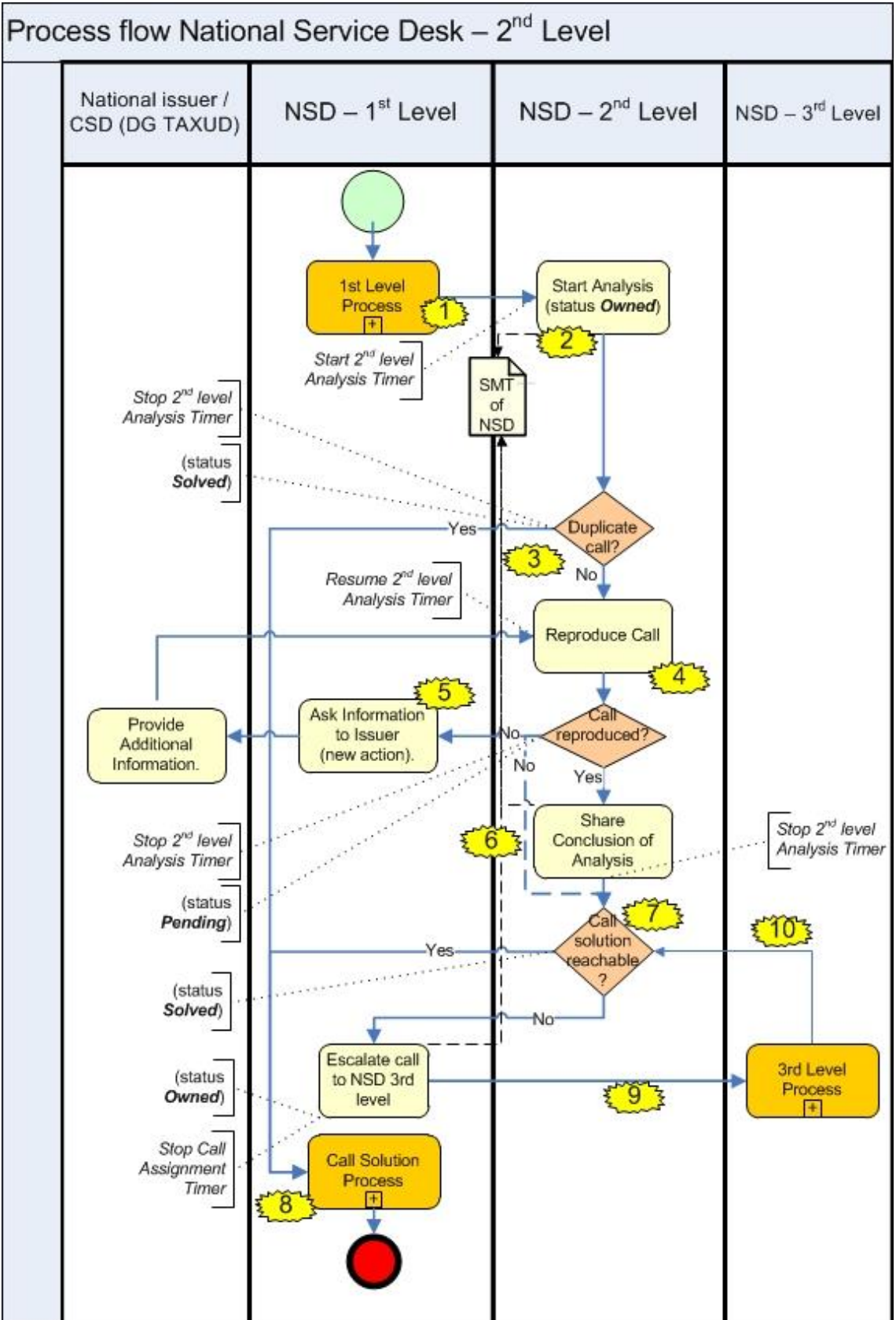


Figure 3: High level process flow of the National 2nd level Service Desk

Call/Action Analysis

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3. When the first action is assigned to the National 2nd level Service Desk by the 1st level Service Desk so as to proceed with the call analysis, the “2nd level Analysis” timer starts. It should be mentioned that the analysis step described below is followed every time an action is assigned to the 2nd level Service Desk; this action may be for internal calls, or for calls owned by the CSD;
4. Initially, the 2nd level action owner validates the priority assigned already to the call, according to the rules described in section 5.1.2;
5. A check on whether the issue reported under the specific call is a duplicate to a previously reported one follows. In case the call is found to be a duplicate to an older one, the 2nd level SDO records the duplication information in the action details of the NSD tool and the procedure for “Call Solution” is followed (please refer to section 5.1.8);
6. If the new call is found not to be a duplicate to a previous one, the 2nd level Service Desk action resolver is responsible for providing an analysis to the issue reported in the specific call. The nature of the analysis provided depends on the call category, being an information call or a trouble call. For **information calls**, the 2nd level action resolver should be able to pinpoint the exact documentation/configuration/specifications item the call refers to and present a clear and thorough answer. The analysis is then recorded in the action details and the call follows the “Call Solution” sub-process.

In case of a **trouble call**, the 2nd level Service Desk action resolver is responsible for reproducing the reported issue or providing detailed clarification on the cause of the reported issue. Call reproduction may occur in the test or training environment of the NA, keeping in mind that the environmental parameters affecting the call reproduction should be the similar to the original (reported) ones, including the NCA version and configuration settings;

7. If the call cannot be analysed (i.e., the issue cannot be reproduced, or some additional clarification is needed):
 - a. A request for more information is sent to the call issuer or other party and the NSD tool is updated accordingly (i.e. a new action is opened to the call issuer requesting for any additional information);
 - b. The action for the 2nd level Service Desk is put in status “Pending” and the “2nd level Analysis” timer stops.;
 - c. Upon reception of the requested information, the “2nd level Analysis” timer resumes and the 2nd level Service Desk proceeds with the incident reproduction and/or further analysis.
8. If the 2nd level Service Desk is not able to reproduce the reported case, even after additional information has been received by the call issuer, then it proceeds to the next step;
9. When the 2nd level Service Desk has performed their analysis (or the issue cannot be reproduced), the action details are updated, the action status becomes “Closed”, the “2nd level Analysis” timer stops and the “2nd level Analysis” time is calculated. Once the analysis is performed, an analysis e-mail is generated by the tool, containing the analysis details. This e-mail may be enhanced to contain attachments related to the analysis (e.g. log files). The analysis is (automatically) dispatched to the pertinent parties including the NSD functional mailbox and the call resolver;
10. Upon reception of the analysis, the call resolver judges if the solution to the call has been reached. If so, then the National 2nd level call resolver follows the procedure for “Call Solution” (refer to section 5.1.8);
11. If the National 2nd level Service Desk is unable to provide the call solution, a new action is assigned by the call owner to the 3rd level Service Desk for them to analyse and provide a solution.

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Action Updating

1. When an answer to an action is received by the National 3rd level Service Desk, the National 2nd level SDO acting as the call resolver has to proceed with the assessment of this answer. The main objective of this step is to ensure that the answer provided is consistent with the information requested and that no ambiguity exists;
2. When the assessment of the action is complete, the action status is updated to “Closed”. In case the 2nd level Service Desk call owner finds that the answer provided by the action resolver is not in accordance with the requested information, the action resolver is contacted and is requested to provide the pertinent piece of information.

The 2nd SDO acting as the call resolver will keep assigning actions to action resolvers until the call solution has been reached. The management of those actions (e.g., open actions, update action statuses, etc.) falls under the responsibilities of the National 2nd level Service Desk call owner. Note that all action resolvers are (automatically) notified via e-mail, upon assignment of a new action to them.

5.1.4.3 3rd level Service Desk

The National 3rd level Service Desk is allocated with the task of answering to actions assigned to it and providing the solutions to reported issues. The team involved in and acting as the 3rd level Service Desk should possess in-depth knowledge of the specifications and development maintenance of each NCA. This team can be external to the NSD (e.g., a contractor). However the analysis/resolution results should be communicated to the NSD and be verified, so that the pertinent actions are closed.

The responsibilities of the National 3rd level Service Desk are outlined in Figure 4.

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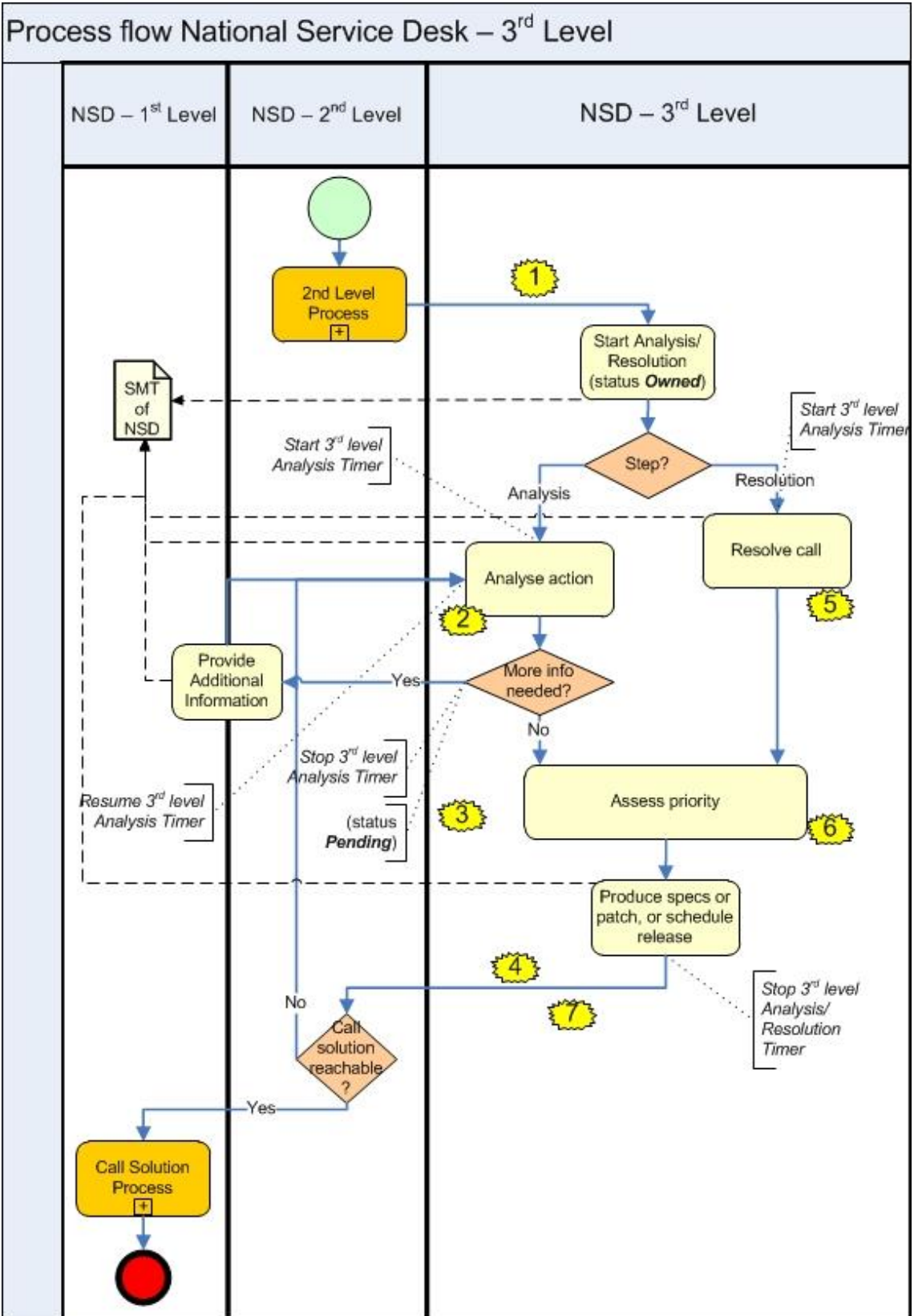


Figure 4: High level process flow of the National 3rd level Service Desk

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The 3rd level Service Desk is the resolver of actions assigned to it by the National 2nd level Service Desk. Upon receiving an action, the 3rd level SDO performs the following process steps:

- Checks whether the call description/information and associated log files, are available and adequate for providing a thorough analysis/resolution. If not, the 2nd level Service Desk call resolver is notified;
- Ensures that the action analysis/resolution is done within the pre-defined Service Desk target times (refer to section 5.1.5.3).

Specifications – Call Analysis

1. A new action is assigned to the National 3rd level Service Desk by the 2nd level Service Desk call resolver. The “3rd level Analysis” timer starts.

The 3rd level Service Desk receives analysis requests related to either specifications or development matters. Depending on the subject of the call, a diagnosis may result to an update of the specifications documentation or an implementation plan. The diagnosis is reviewed by the respective action resolver;

2. Even when the reported issue may eventually lead to the call resolution steps (see following paragraph, 'Development' branch), the National 3rd level Service Desk will first perform an analysis of the call and try to isolate the source of the reported issue. In order to facilitate the isolation of faults in the applications and generally for providing efficient software maintenance services, it is suggested that a reference environment is maintained, similar to the system in operation. This environment is under strict configuration control and follows the evolution of the operational system. Before each change is introduced to the system as a result of a maintenance activity, it undergoes thorough testing on the reference environment;
3. After the National 3rd level Service Desk has isolated the cause of the call, an implementation plan is provided, taking into account the priority of the call. Moreover, the 3rd level Service Desk has to proceed to an assessment of whether the specific call has affected or may affect any other national or international application or specifications. For the 3rd level Service Desk, the estimation of the call priority is based on the technical impact that the reported call has on the specifications/NCA;
4. When the 3rd level Service Desk has identified the cause of the reported issue and has scheduled its implementation, or when the diagnosis to a reported issue has been achieved, the 3rd level Service Desk records this as the action analysis. This analysis is verified by the National 3rd level SDO acting as the action resolver and the action analysis is (automatically) dispatched to the National 2nd level call owner who updates the action status to “Closed” and stops the “3rd level Analysis” timer.

Development – Call Resolution

1. The resolution step applies only to the solution of calls related to the NCA development and not to actions regarding specifications issues. The approach to be taken for corrective/evolutive maintenance of the NCA is defined by the NA. Nevertheless, in order to ensure uniformity among the NAs in relation to the NCA version management, it is proposed to follow the approach described below;
2. The calls are resolved taking into account the priority for each one. The resolution of a call is assigned to the appropriate member(s) of the NA “development team”, who makes the necessary corrections to the relevant items software unit(s), and records the items that are affected on the Delivery and Qualification Report (DQR) form adopted by each NA. The developer also makes an initial assessment of which application(s) document(s) may be affected from these changes, possibly leading to one additional specific Action;

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- When the team member has completed the resolution of an application issue, an Action is created for the testing team to verify the patched application. It should be noted that in cases the resolution of a call affects more than one application or the specifications, distinct resolution actions will be assigned accordingly. Once the patch has been published, the call should be re-assigned to the initial issuer of the call, to verify if the solution meeting expectations (immediate closure should be avoided in case the installation of the new release is not immediate).

A NCA may be released either as a Major release or a Cumulative Patch release or a Patch release (solving Critical priority calls). The main characteristics of those releases are given below:

Major Release (M)

- Published once a year;
- Includes new features, enhancements and fixes;
- Allows for standalone product installation.

Cumulative Patch Release (C)

- Published on a half-yearly basis;
- Includes all fixes delivered as patches, plus scheduled fixes for non-critical issues;
- Issued as a patch on Major release.

Patch Release (P)

- Published on an ad-hoc basis;
- Addresses (mainly) production stability issues;
- Not Cumulative: i.e., it is issued as a patch on the Major release and/or Cumulative Patch release.

For each category of call priority, the release procedure and schedule is given in Table 9.

Priority	Patch/Release	Scheduled
4 (Critical)	Patch Release ASAP	No
1, 2, 3 (Non-Critical)	Major Release	Yes (Yearly Release)
	Cumulative Patch Release	Yes (Half-yearly Release)

Table 9: Release schedule

It is recommended to adopt the DG TAXUD versioning scheme, i.e. the version of an NCA release should have the structure **XXX-M.C.P** (e.g. CS/MIS-9.1.0). In cases where a solution cannot be provided within the agreed targets per priority, the maintenance team may suggest ways to temporarily isolate the module that causes the call from the rest of the system, ensuring that the system is available, although with some functionality might be disabled.

The adoption of the resolution step within the NSD procedures is done by monitoring the implementation plan through a ‘resolution’ action (as opposed to an ‘analysis’ action) assigned to the 3rd level Service Desk. It may be the case that an external party to the NA performs the actual implementation. Nevertheless, the 3rd level Service Desk action owner is aware of the number of calls to be implemented in a future NCA version and the number of calls that have finally been successfully implemented in this release, and the final implementation results are verified. Re-scheduling of the implementation plan may occur when the part of the application

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amending a reported issue in a call is not properly functioning after the delivery and qualification of the new version.

5.1.5 National Service Desk response times

5.1.5.1 1st level Service Desk response time

Call Acknowledgement Time

The Call Acknowledgement time measures the time elapsed between the reception of a new request for support in the Service Desk, and the time the SDO acknowledges the request by issuing a confirmation e-mail to the Call Issuer. The e-mail should be sent once the new request is opened in the SMT and should contain the unique identifier of the new call, to be used in future reference.

An example of target and limit values for the Call Assignment Time is given in Table 10.

Priority	Call Acknowledgement Target Time	Call Acknowledgement Limit Time
4 – Critical	30 working minutes	1 working hour
3 – High	1 working hour	1 working hour
2 – Medium	1 working hour	1 working hour
1 – Low	1 working hour	1 working hour

Table 10: Call Acknowledgement time (example of Target and Limit values)

Solution Verification time

The Solution Verification time measures the time elapsed between the solution e-mail was sent to the call issuer (call status “Resolved”) and the time the 1st level Service Desk updates the call status to “Closed”. This time is global for all call priorities and is defined to be five working days.

5.1.5.2 2nd level Service Desk response time

2nd level Analysis time

The 2nd level Analysis time is specified as the time elapsed between the notification of ownership of a specific action by the National 2nd level Service Desk (action status “Owned”) and the time the National 2nd level Service Desk has completed the action analysis, has recorded the analysis details in the Service Desk tool (action status “Closed”) and the analysis is dispatched to the call owner.

An example of target and limit values for the 2nd level Analysis time per action priority is indicated in the following table:

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Priority	2nd level Analysis Target Time	2nd level Analysis Limit Time
4 – Critical	2 hours	4 hours
3 – High	1 working day	1 working day
2 – Medium	2 working days	3 working days
1 – Low	4 working days	5 working days

Table 11: The 2nd level analysis time (example of Target and Limit values)

5.1.5.3 3rd level Service Desk response time

3rd level Analysis Time

The 3rd level Analysis time is the time elapsed between the notification of ownership of a specific action by the National 3rd level Service Desk (action status “Owned”) and the time the 3rd level Service Desk action owner has completed the action analysis, has recorded the analysis details in the Service Desk tool (action status “Closed”) and the analysis is dispatched to the call owner.

An example of target and limit values for the 3rd level Analysis Time per action priority is indicated in Table 12.

Priority	3rd level Analysis Target Time	3rd level Analysis Limit Time
4 – Critical	4 working hours	1 working day
3 – High	3 working days	4 working days
2 – Medium	4 working days	6 working days
1 – Low	5 working days	10 working days

Table 12: The 3rd level analysis time (example of Target and Limit values)

3rd level Resolution time

The 3rd level Resolution time is the time elapsed between the notification of ownership of a ‘resolution’ action by the National 3rd level Service Desk¹³ (action status “Owned”) and the time the issue is fixed in a new release (the call is mentioned in the pertinent DQR), the 3rd level Service Desk has recorded the resolution details in the NSD tool (‘resolution’ action status “Closed”) and the resolution details are dispatched to the call owner.

An example of target and limit values for the 3rd level resolution time per action priority is indicated in Table 13.

¹³ The development team has isolated the cause of the problem and 3rd level helpdesk analysis of the problem has been submitted to the 2nd level helpdesk call owner.

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Priority	Resolution Target Time	Resolution Limit Time
1 – Critical	1 working day	4 working days
2 – High 3 – Medium 4 – Low	In next Major or Cumulative Patch release, scheduled at least four weeks after the analysis of the call by 3 rd level Service Desk has been completed (e.g. if a call has been analysed less than four weeks before Major release P40-1.0.0, it will be resolved in Cumulative Patch release P40-1.1.0)	The Major or Cumulative Patch release following the one scheduled at least four weeks after the analysis of the call by 3 rd level Service Desk has been completed (e.g. if a call has been analysed less than four weeks before Major release P40-1.0.0, it will be resolved the latest in Major release P40-2.0.0)

Table 13: The 3rd level resolution time (example of Target and Limit values)

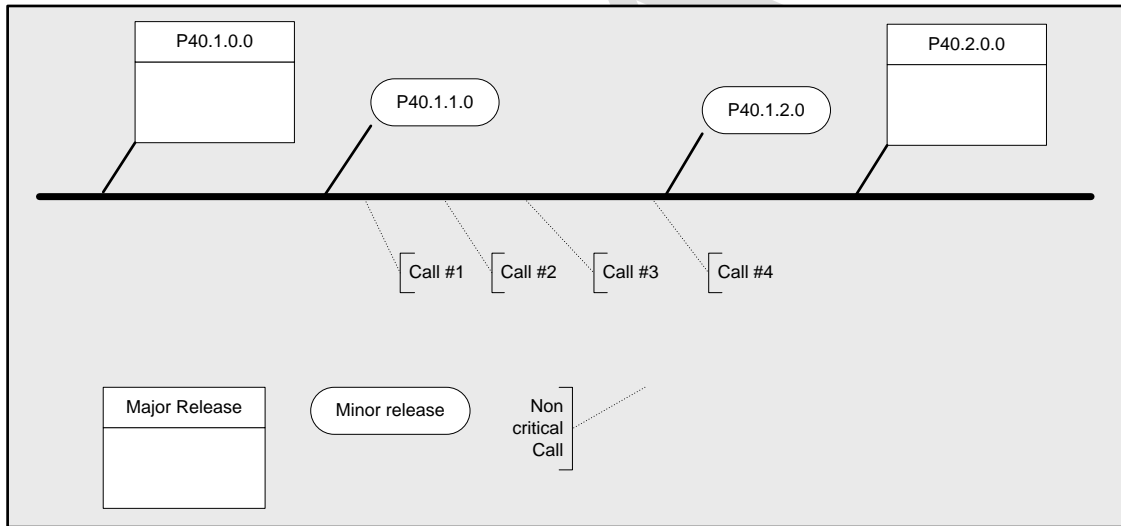


Figure 5: Resolution timing for non-blocking calls

The calls with priority 4 (Low), 3 (Medium) and 2 (High) will be addressed and corrected at the latest in the first release (see Table 13), either Major or Cumulative Patch, scheduled to be released at least four weeks after the time the call has been analysed by the 3rd level Service Desk. For example (refer to Figure 5), the non-critical call #1 that has been analysed after Cumulative Patch Release P40-1.1.0 will be resolved in the Cumulative Patch Release P40-1.2.0. The non-critical Call #2 and #3 that has been analysed at least four weeks before Cumulative Patch release P40-1.2.0 will be resolved in that release. Non-Critical call #3 that has been analysed less than four weeks before the Cumulative Patch Release P40-1.1.0 (or during that release) will be scheduled for resolution in the next Major release P40-2.0.0.

5.1.6 Re-assignments

Re-assignments within the context of the NSD occur when an action is assigned to an action owner, but the nature of this task is out of the area of responsibility of the specific party. In this event, the action owner notifies the call owner, who approves the request for re-assignment and performs the necessary updates. In case of disagreement, the call owner is responsible for the final assignment of the specific task. Ultimately, the Service Desk Manager, Application

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Manager or the National Project Manager will resolve any long-term disputes on task allocations at National level.

5.1.7 Reminders

Reminders are notices sent to action resolvers, warning them about action analysis timer expirations. Reminders can be proactive and reactive.

The Call Resolver is entitled to send a reminding e-mail to any Action Resolver according to one or more of the following options:

- Before the expiration of the respective timer; this implies that a pre-defined percentage of the timer is calculated by the Service Desk tool and an (automatic) reminder is sent when this percentage is covered. For instance, a proactive reminding e-mail may be sent to the 3rd level Service Desk action owner on the third day, if they have not already submitted an analysis to a ‘High’ priority action;
- Just upon expiration of the target time;
- Just upon expiration of the limit time;
- Every x days/hours after expiration of the target or limit time.

In case the Action Resolver does not respond to a certain number of reminders for a specific action, escalation measures may take place, such as the Service Desk Manager or Application Manager is informed (see also section 5.2.1).

5.1.8 Call/Incident Management Closure

This step is followed when the Call Resolver, judges that the call solution is reached. In this case, the 1st SDO:

- Ensures that all actions within this call are closed;
- Updates the call details in the Service Desk tool with the call solution;
- Sends the solution e-mail to the call issuer;
- Updates the call status to “Resolved”.

The Figure 6 outlines these tasks involved in the Call Solution process:

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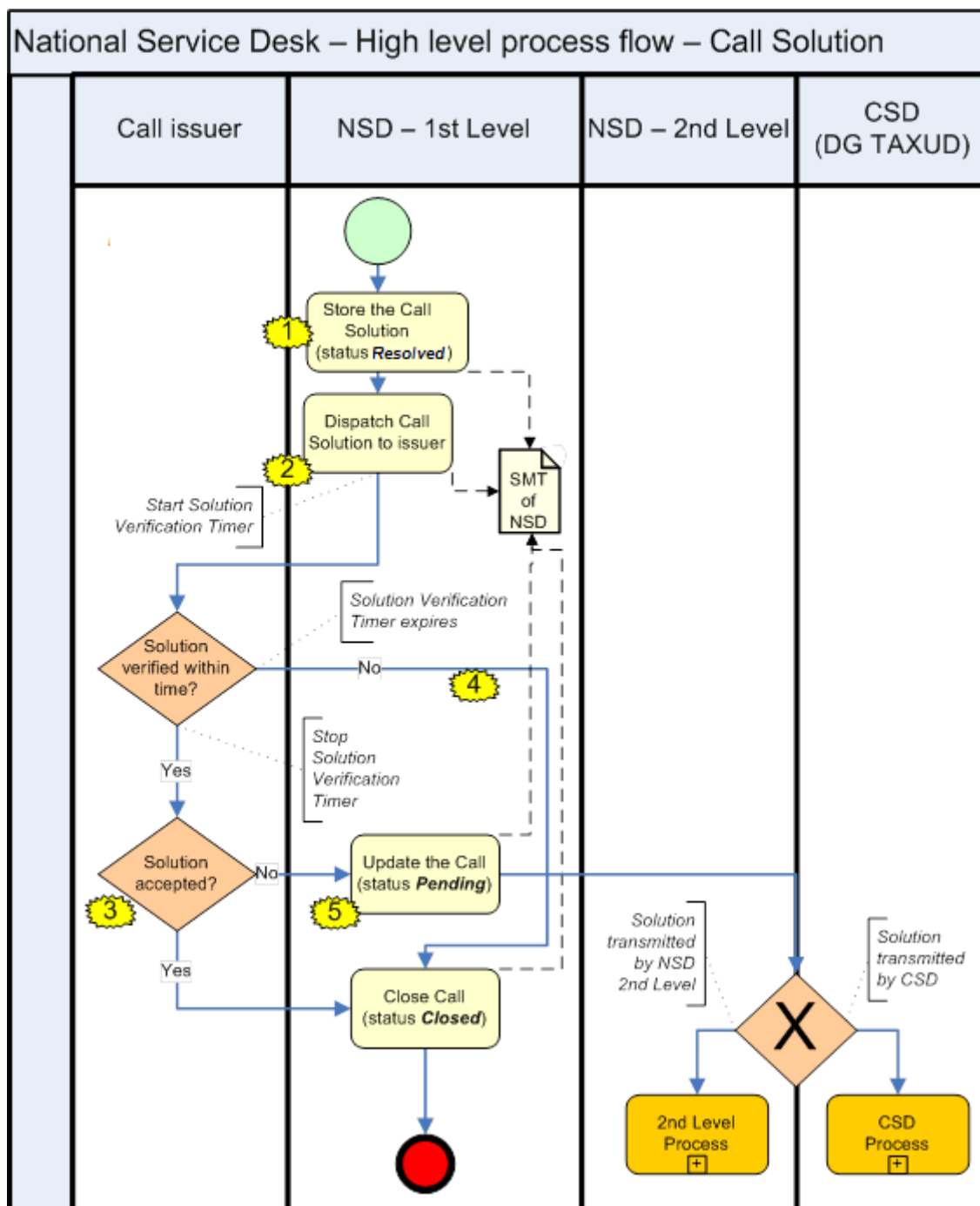


Figure 6: High level process flow of the Call Solution process

For **Internal Calls**, once the Call Solution has been reached:

1. The National 1st level SDO records the solution in the Service Desk tool and updates the call status to “Resolved”;
2. An (automatic) notification is sent to the call issuer informing on the solution details (For calls dispatched to the CSD, and once the Call Solution has been reached, the call solution is sent to the NSD functional mailbox from the CSD call owner, via a solution e-mail);

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3. The “Solution Verification” timer starts. The call issuer needs to confirm their approval/rejection of the proposed solution;
4. If the call issuer does not respond within the time frame of the “Solution Verification” time, the call may be automatically updated to “Closed” after two reminders and a notification e-mail are sent to the call issuer, without reaction of the call issuer;
5. If the call issuer does not accept the call solution before the call is automatically closed, then the call is left open and a new action is assigned to the appropriate resolver (2nd or 3rd level Service Desk).

The event may arise that the 3rd level Service Desk may not be in a position to resolve a call. This may be either because:

- The call cannot be reproduced by either the 2nd or 3rd level Service Desk;
- The call can be reproduced but the source of the issue cannot be identified or amended.

In the case that a call cannot be resolved by the 3rd level Service Desk, the following courses of action may be taken depending on the subject of the call:

- The call is closed and a new call is opened when the issue is reproduced again. Pertinent log files are kept and analysed in the new call;
- The call remains in 'Parked' status and a new action is opened for the purpose of recording a future call reproduction (for example, in a newer version) or future continuous testing and debugging that may lead to the identification of the nature of the issue and its solution.

5.2 Fallback and escalation management

5.2.1 Issue escalation

Normal escalation in the context of the daily operation of the NSD is performed in the event that one Service Desk level may not reach a specific call solution. When the 1st level Service Desk is unable to provide the call solution, the first action to the call is opened for the 2nd level Service Desk. When the 2nd level Service Desk cannot resolve the call, a new assignment action is assigned to the 3rd level Service Desk.

Another type of escalation concerning call management is the priority alteration. As stated before, a call priority may be proposed to be altered by any Service Desk level or the call issuer.

The Service Desk procedure applied to reminders (refer to section 5.1.7) may also trigger Call Escalation. Depending of the national needs, a pre-defined number of reminding e-mails may activate an informative notice process to the NSDM, System Manager, or any other party involved in the escalation procedure. A number of reminders may also result in progressing the call to its Solution phase (refer to section 5.1.8). For example, if no supporting information to the call is provided by the call issuer, the call Solution process may be followed by the call owner after a pre-defined number of reminders sent to the call issuer.

5.2.2 Service Desk fallback procedures

During normal operating working days and hours of the NSD, the resources allocated to the NSD should be fully operational. Since the Customs TES are live environments that run on a 24-hour basis, it would be expected that each NSD allocates backup personnel for supporting the users of this service outside normal office hours, or during the weekends, and national holidays. The SDO(s) assigned with this task should have an in-depth knowledge of the e-Customs business logic, in order to be able to provide workarounds that facilitate the work of the end user until the NSD becomes again fully operational.

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Contacting the NSD may be carried out via e-mail and/or fax 24 hours per day, 7 days a week. The NSD may receive telephone calls within the normal office hours. Phone calls are forwarded to an answering machine during non-office hours, holidays and weekends if backup personnel are not allocated to support the service. When e-mail and/or fax access is not possible, DG TAXUD and the CSD will be informed accordingly, within a maximum of one working hour delay (after the start of the unavailability of the NSD). The NSD will inform all involved parties in advance, should an interruption in the service be anticipated, due to e.g., scheduled maintenance activities.

In case that the Service Desk tool is not available, the NSD will immediately inform the pertinent support team (internal or external to the NA) allocated to the maintenance of the tool. All users will also be notified accordingly. The procedures automated by the tool (e.g., (automatic) notifications to the call issuer and/or action owners when the status of a call changes, etc.) will be executed manually by the SDOs. Depending on the duration of the unavailability, the communication with the users should be done through e-mail, fax or telephone and should be recorded in paper, using the Call Report Forms that should have been designed for this purpose. All communications and/or information exchanged with the users are kept and are uploaded to the Service Desk tool, when it becomes again available.

The NPM defines the duration before starting the fallback procedure, taking into account the daily volume of activity of each NSD, and the target and limit value defined in the SLA between National Administrations and DG TAXUD (see [AD02] and [AD03]).

5.3 Call monitoring and follow-up

Proper call progress monitoring and follow-up ensures the smooth operation of the NSD and constitutes a reliable service provider.

In order to ensure that the appropriate follow-up takes place, the National SDOs:

- Monitor and follow up every e-mail received and sent related to call progress and ensure that all actions to be taken are being handled;
- Revisit on a periodical basis (e.g. once a week) the progress of all open calls and ensure that all actions to be taken are being handled;
- Send regular reminder e-mails;
- Escalate when necessary;
- Review the reports delivered by the NSD and take reactive or proactive actions;
- Discuss possible threat situations on the NSD progress meetings.

5.4 Configuration management

The configuration management ensures a proper version control during each of the implementation and operation phases of the Customs TES. It also allows the assessment of the impact of any change.

The configuration management includes the computer inventory, the versioning of software components and files and the management of dependencies between the different sub-systems. Configuration Management should also cover the document set forming the baseline of each version of the software components.

Good configuration management is necessary to operate the Service Desk in order to locate any issues. Note however that the NSD is not necessarily directly involved in the configuration management. Rather, the configuration management might be executed by another department of the NA organisational structure. Nevertheless, the NSD co-operates with this department and maintains the description of the standard configuration of the NCA and CSD systems. It is also

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kept informed about the configuration changes and updates performed at the NCA and CSD systems.

5.4.1 The NCA Configuration

The NSD should maintain the description of the standard configuration for all sub-systems of the NCA systems.

For the NCA, all components are registered into a configuration database receiving a unique version number. The configuration description should contain, apart from version number and patching information, the applicable technical and user documentation, the hardware, system software, compiler and COTS in use. Each version of the standard configuration description should receive a unique identifier.

It is strongly advised that the NAs re-perform the acceptance tests in a self-assessment manner for each upgrade in the configuration.

Any update to the configuration should be communicated to the CSD.

5.4.2 Maintenance of Contact Maps

The NSD should maintain a database of contacts, for all parties involved in the Customs TES and interacting with the NSD. The contact maps are maintained internally at the NSD and do not have to be published to the end-users. The NSD will inform CSD about any changes in personal contacts used for receiving notifications and information from Central Customs Systems or from distribution lists maintained by CSD. As optimum information, the following information should be kept:

Organisation (e.g., NSD, CSD, etc.)

- Organisation name;
- Country;
- Postal address;
- Official telephone number;
- Official fax number;
- E-mail address;
- Remarks.

Contact information for persons within the organisation:

- Surname;
- First name(s);
- Post or responsibility;
- Direct telephone number;
- Direct fax number;
- E-mail address;
- Specific remarks (e.g., specific access rights).

5.5 Change management

Requests referring to changes on the existing Customs TES involved applications and tools are followed up by the NSD and specifically handled by the 3rd level Service Desk.

Change management is performed by an external to the NSD party. However, the national 3rd level Service Desk should monitor, follow up and verify the change management process related to the call implementation.

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5.5.1 Changes to NCA and Customs TES specifications

Changes affecting the NCA are originated from a *National* Request for Change (RfC) or a *Common* RfC after a 3rd level analysis action. Such a change may be:

- A corrective (non-conformity to existing specifications or bug to the application), or;
- An evolutive one (enhancement to the application).

Change requests on the Customs TES Specifications may be issued by NAs but fall outside the scope of this process as they are handled by DG TAXUD. The NSDs participate actively in the review and approval of a new DDCOM or DDNA RfC through the CSD call system.

5.5.2 DDNA RfC Consultation Process

Changes in FSS have to be reflected in DDNA first. As a change in the DDNA might affect all NCAs, it has been decided that the operational NAs participate actively in the acceptance process of a new DDNA RfC. Specifically for a diagnosis leading to a new DDNA RfC, the steps described below are followed and managed by the Central Service Desk:

- The CUST/DEV Contractor provides DG TAXUD with a RfC proposal via an IRF (action assigned to the Specifications team of the CUST/DEV Contractor);
- After internal verification, DG TAXUD requires the ITSM Contractor to start the consultation process in order for the interested NAs to review the proposed RfC. In this communication, the RfC implementation date is not defined at that time;
- The ITSM Contractor initiates and follows-up the consultation process;
- DG TAXUD then consolidates the NA input and authorises or not the new RfC publication on CIRCABC or SYNERGIA – based on the received comments. The status of the RfC becomes 'Accepted';
- The RfC List is submitted for approval by ECCG, with a proposed implementation deadline. After approval by the ECCGs, the DDNA RfC List is published and the DDNA documents are updated by the CUST/DEV Contractor, followed by a review by the NAs;
- When applicable, the NAs will also plan and perform the alignment of their NCA to the DDNA RfC List.

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6. National Service Desk internal procedures

6.1 Service Desk administration

The internal procedures applied to the NSD are affected by the following factors:

- The procurement of the Service Desk tool used for the call tracking and reporting;
- The backup and archiving of the NSD database and documentation repository;
- The access rights to the service provided and equipment used for the support of the NSD.

6.2 NSD security

The user authorisation to the NSD service depends on the security policy implemented within each National Administration.

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A.1 Other activities/information pertinent to the NSD operation

A.1.1 Minimum information required to log a call

The following information per application is considered as being adequate for the NSD to trace a specific issue. The minimum required information listed below is based on the NCTS experience; the list may be reduced or expanded depending on the TES and on the NA needs. The pertinent documentation on minimum information required to reproduce a call should be available for each user at National Level, on the NSD's web site, or on request via e-mail.

General Information:

- Contact details;
- Impact and Urgency (to define the Priority level);
- Service call / trouble call;
- Configuration Item;
- Context.

Specifications

ID	Description
SPC01	Name and phase of the Customs TES (e.g. ECS Phase 2).
SPC02	Name and version of the document (e.g. DDNXA version 2.10).
SPC03	Short and meaningful description of the call (e.g. About confusion between the pattern for the Error pointers in a 906).
SPC04	Detailed issue statement and relevant documentation (possibly with attached documents).

NCA

ID	Description
NCA01	The part of the application on which the error condition was observed (e.g. MCC GUI, MCC System Administrator's Tool, MCC Installation, MCC Database administration).
NCA02	The version of the application.
NCA03	The NCA log files for the date (YYYYMMDD) that the issue has occurred (e.g. /application_prefix/log/*.YYYYMMDD and /application_prefix/log/*.YYMMDD)).
NCA04	A step-by-step description of what the user was trying to achieve when the error condition was observed, and the MRN of the declaration associated to the issue, if applicable.

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STTA

ID	Description
STTA01	The STTA Log files (logfile.log, CSIstack.log) in the log directory.
STTA02	The configuration files (i.e. the contents of the config directory, cfg/*).
STTA03	A print out of the contents of the MS-DOS prompt window that launches the STTA.
STTA04	Listing of the STTA installation directory structure.
STTA05	If it is a CCN/CSI related issue, the csistack.trc and csistack.log files.

A.1.2 Conformance Testing

The Conformance Testing is a process that ensures conformity of every NCA application and environment to the processes within the Common Domain.

Customs TES (NCTS, ECS, ICS, CDMS and EOS) encompasses all Domains. Testing also require some activities in the National and/or External Domains. Items in the External Domains are not part of Conformance Testing. They need to be either emulated during the Conformance Testing or need to be physically in place (this choice is up to the NA). The Conformance Testing is also applicable for the National Application exchanging with CS/MIS (for CuBuS and the IE411 message), CS/RD or CS/RD2 (e.g. for the COL - message IE030), EOS, COPIS, REX, CRS and CDMS.

The NSD plays a key role during the Conformance Testing activity, to ensure a rapid success of the testing while meeting the strictly defined milestones. Indeed, the smooth interaction with the CSD is crucial to avoid any delay in the period before the NCA starts with production.

More information on the Conformance Testing process is available in the Conformance Test Protocol and the Conformance Test Organisation documents (CTOD)¹⁴, produced for each Customs TES.

A.1.3 COL update in CS/RD¹⁵ and NCA unavailability in CS/MIS

The National Administration is responsible for recording NCA scheduled and unscheduled unavailability in the CS/MIS application, as well as for performing updates of the Customs Office List (COL) in the CS/RD application and providing translation of the reference data. It is recommended that the **COL updates are performed in CS/RD at least six weeks prior to the validity date.**

The ITSM Portal includes a section 'Frequently Asked Questions' with information concerning the update, translation and use of the reference data in CS/RD and the update of NA unavailability information in CS/MIS.¹⁶

¹⁴ See for example the CTOD for NCTS on CIRCABC at <https://circabc.europa.eu/w/browse/931674e0-19d3-4b60-9cb3-fe99e6e1d413>

¹⁵ Or CS/RD2 from 01/12/2016.

¹⁶ See also the CS/RD training slides published on CIRCABC at <https://circabc.europa.eu/w/browse/1dd9baf6-576f-4a65-a146-1160b94f1113>

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A.2 Specifications for a tool to be used to support the NSD operation

It is recommended to acquire a Service Desk Management Tool to ensure smooth and efficient operation of the NSD. More specifically, such a tool:

- Facilitates the daily work of the SDOs, by supporting all relevant processes (e.g., call registration, action assignment, (automatic) notification);
- Provides a central information repository, where all pertinent on-line and historical information, as well as scheduled and ad-hoc statistics and data analysis results, are maintained;
- Maintains reference data that are required for the proper execution of the services and the precise calculation of the service levels, such as Call and Action attributes, Priority levels, National and Commission holidays, User information;
- Becomes an important tool for the NSD, for extracting statistical data and preparing forecasts;
- Allows all NA involved personnel to easily follow up their support request by making simple and ad-hoc queries in the knowledge base.

A number of open source and commercial products are available in the market. The final selection and acquisition of the tool depends heavily on the NAs' needs and a number of parameters, such as NAs policy for software (S/W) and hardware (H/W), ability to integrate and interoperate with other systems and infrastructure currently in use by the NAs, functionality offered and expandability, cost.

The table below lists the basic Service Desk processes and tries to map those to tool functionality. It can be used by the NAs as a checklist, assisting them in the selection of the proper tool for their NSD, by highlighting the main functionality that the tool should offer.

Service Desk process	Functionality offer by the tool
General	The tool should be compatible and/or integrate with the other S/W and H/W infrastructure in place at the NA side.
General	The tool should be customisable, including the easy modification of business rules, security rules, reference data (e.g., Call and assignment action attributes, Priority levels, Contact information for all users,).
Availability	The system should be available 24 hours a day, 7 days a week. It should provide a web interface, allowing the issuers to log and review the status of their calls at any time, as well as the resolver(s) to list all the calls for which they must take action.
General	The tool should have a client GUI allowing, the operators of the system to view and manipulate data stored in the database.
Administration	Various tools should be provided to allow for the easy execution of administration tasks, including the user and access control lists management, the backup, the logging and audit trails.
Receiving calls; 1 st level Service Desk	<ul style="list-style-type: none"> • Call management by 1st level Service Desk operators; • Call registration: <ul style="list-style-type: none"> ○ By the Service Desk operator;

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Service Desk process	Functionality offer by the tool
	<ul style="list-style-type: none"> ○ Through the web client; ○ Through a well-structured e-mail, sent to the address of the NSD. ● Generation of a unique call number; ● End-user identification; ● Automatic notification of the issuer, upon successful registration of the call (communicating also to them the Call number and other relevant information).
Assigning and tracking actions	<ul style="list-style-type: none"> ● Assignment action registration; ● Generation of a unique assignment action number; ● Automatic transfer of information from the call registration process to the action registration process; ● Assignment of the action to a resolver; ● Transfer of assignment action (i.e., change of resolver).
Keeping issuers informed on call status and progress	<ul style="list-style-type: none"> ● Automatic notification at every change in the status of a call; ● Possibility of individual end-user to query on the central database to follow the status of an assignment action; ● Review of action before final closing.
Making an initial assessment of calls assignment actions, attempting to resolve them or referring them to someone who can resolve them based on agreed service levels	<ul style="list-style-type: none"> ● Call prioritisation; ● Set a target time to solve the call / action based on its priority; ● Diagnosis of call / assignment action through query of knowledge bases with keywords; ● Automatic assignment to a support person or support group based on call category, location, concerned platform or application.
Monitoring and escalation procedures relative to the appropriate Service Level Agreement	<ul style="list-style-type: none"> ● Existence of a service level agreement repository; ● Escalation rules are defined to meet requirements according to service level agreements; ● Possibility of manual escalation overwriting the automatic escalation process; ● Escalation notification for the support teams members, even if they are not logged to the Service Desk Management Tool; ● Alerts in case of a call whose SLA target will not be respected.
Managing the call life-cycle, including closure and verification	<ul style="list-style-type: none"> ● Review of calls assignment actions before final closing; ● Linking of calls (follow up of one call in another one); ● Built-in survey mechanism.

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Service Desk process	Functionality offer by the tool
Communicating planned and short-term changes of service levels to customers	<ul style="list-style-type: none"> • On-line bulletin board with latest events and common calls.
Co-ordinating 2 nd and 3 rd level support groups	<ul style="list-style-type: none"> • Notification to a resolver that an assignment action has been transferred to him/her; • Management of the availability agenda of the support teams.
Providing management information and recommendations for service improvement	<ul style="list-style-type: none"> • Standard and ad hoc reporting; • Report of achievements against Service Level Agreement requirements.
Identifying issues	<ul style="list-style-type: none"> • Identification of recurrent calls; • Identification of the calls without root cause.
Highlighting end-user training and education needs	Based on the category and nature of the calls submitted to the Service Desk and the type of solutions given to the end-users, it is possible to determine the subjects on which additional education and training is needed.
Closing calls with issuer confirmation	<ul style="list-style-type: none"> • Ability to restrict the closing of calls to a specific group; • Option to close a call after confirmation has been received by the issuer, or after the Solution Verification timer has expired.

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A.3 Measuring quality of services offered

In the following subsections, indicative metrics and quality indicators are presented. They are provided as examples only. It is up to the NAs to adopt and/or use any of the quality indicators presented below, and/or define their own metrics and methods for measuring the quality of the services offered.

A.3.1 Quality requirements and metrics

To access the quality of the service and deliverables, specific quality requirements, criteria, and metrics should be determined for all elements defining the Service Desk working procedure and efficiency. Some example of such requirements and metrics can be found in §5.1.5 of this document, where target and limit service levels are defined for all separate Service Desk processes, according to the defined priority levels.

A.3.2 Specific Quality indicators

In order to measure the quality of the provided services and finally the compliance with the national SLA (if any), *Specific Quality Indicators* (SQI) can be defined and be calculated for the services provided during a specific measurement period. For a specific event of type x that occurs y times during the measurement period, the corresponding SQI_x is calculated as follows:

$$SQI_x = [\text{Average}_y(MV_x) - T_x] / [T_x - L_x]$$

where T_x denotes the value set as target to be achieved for the event of type x , L_x denotes the minimum allowed value for that event (i.e., maximum allowable deviation from the target), and MV_x is the actual value measured for the event.

The above SQI calculation on one hand gives “bonus” to the team for fulfilling or exceeding the quality requirement and on the other hand it gives “malus” in the cases where the team performance is below the set quality targets. More specifically,

- If $SQI \geq 0$, the team’s performance is above the quality targets set.
- If $-1 \leq SQI < 0$, the team’s performance is below the quality targets set but above the quality limit.
- If $SQI < -1$, the team’s performance is below the quality limit set.

There can be more than one SQI for a service. In general terms, the SQI uses the following variables; some variables however may not be used in the definitions of certain SQIs:

SQI Attribute	SQI Attribute Description
SQI ID	Specific Quality Indicator identifier.
SQI name	SQI description.
SQI Results	Describes the outcome of the calculation formula.
Calculation formula	Allows for measurement of the service level(s).
Measurement period	Specifies the period over which the SQI is calculated; it could be weekly, monthly, bi-monthly or yearly. For some SQIs a minimal number of events for the SQI to make sense might be indicated. If the number of events is below that minimal number, the SQI is not computed.
Unit	Specify the unit used to measure and express the SQI.

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SQI Attribute	SQI Attribute Description
Target	The optimum SQI value to be achieved for the service level.
Limit	The worst SQI value the Service Provider can achieve.

A.3.3 Examples of Specific Quality Indicators

The tables below provide some examples of SQIs that can be used to measure the quality of services offered by the NSD team.

SQI Attribute	SQI Attribute Description
SQI ID	SQI01
SQI name	Adherence to delivery schedule.
SQI Results	Measures whether the agreed delivery schedule is respected (applicable mainly for document deliverables).
Calculation formula	$[(\text{Actual delivery date} - \text{scheduled delivery date}) - \text{Target}] / (\text{Target} - \text{Limit})$.
Measurement period	Monthly
Unit	Total time normalised
Target	0 working days of delay
Limit	5 working days of delay

SQI Attribute	SQI Attribute Description
SQI ID	SQI02
SQI name	Quality of NCA releases.
SQI Results	Measures the quality of NCA releases as the percentage of calls that are to be closed with the NCA release but found NOK during final verification or acceptance testing.
Calculation formula	$[(\# \text{ of calls found NOK} / \text{total no of calls in release}) * 100 - \text{Target}] / (\text{Target} - \text{Limit})$.
Measurement period	Monthly
Unit	%
Target	0% defects
Limit	5% defects

SQI Attribute	SQI Attribute Description
SQI ID	SQI03
SQI name	2 nd level Service Desk effectiveness in terms of total number of analysis actions needed to be handled by them for resolving a call.

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SQI Attribute	SQI Attribute Description
SQI Results	A high number of actions may indicate ping-pong actions between different parties involved in resolving the call that could be avoided.
Calculation formula	$(\# \text{ of actions to resolve a call} - \text{Target}) / (\text{Target} - \text{Limit})$.
Measurement period	Monthly
Unit	# of actions
Target	1
Limit	3

SQI Attribute	SQI Attribute Description
SQI ID	SQI04
SQI name	Effectiveness of 2 nd level Service Desk in terms of the total time spent by them for the analysis of a call.
SQI Results	This SQI measures whether the calls are analysed by the 2 nd level Service Desk within the specified analysis time.
Calculation formula	The formula for this SQI calculation is the following: $(60 * \text{Avg}(C) / T(C) + (40 * \text{Avg}(NC) / T(NC))) / 100$ where: Avg(C) is the average analysis time for critical actions T(C) is the target analysis time for critical actions Avg(NC) is the average analysis time for non-critical (i.e., of Low, Medium or High priority) actions T(NC) is the target analysis time for non-critical actions
Measurement period	Monthly
Unit	Total time normalised
Target	1
Limit	1.3

SQI Attribute	SQI Attribute Description
SQI ID	SQI05
SQI name	Effectiveness of 3 rd level Service Desk in terms of total time spent by them for the analysis of a call.
SQI Results	This SQI measures whether the calls are analysed by the 3 rd level Service Desk within the specified analysis time.
Calculation formula	The formula for this SQI calculation is the following: $(60 * \text{Avg}(C) / T(C) + (40 * \text{Avg}(NC) / T(NC))) / 100$ where: Avg(C) is the average analysis time for critical actions.

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SQI Attribute	SQI Attribute Description
	T(C) is the target analysis time for critical actions. Avg(NC) is the average analysis time for non-critical (i.e., of Low, Medium or High priority) actions. T(NC) is the target analysis time for non-critical actions.
Measurement period	Monthly
Unit	Total time normalised
Target	1
Limit	1.3

A.3.4 Non-compliance with the quality of service provided

As described above, the SQI can be used to measure the quality of a provided service. For measuring the overall performance and, ultimately, the compliance with the quality of service provided, a *Global Quality Indicator* (GQI) can be defined and be calculated for all the services provided during a specific measurement period.

The GQI is calculated as a weighed sum of all SQIs:

$$GCI = \text{SUM}_x(\text{SQI}_x * w_x)$$

where w_x is a relative importance assigned to an event of type x , and $\text{SUM}_x(w_x)=1$. The above formula allows putting more important on specific event types, e.g., higher weight can be put on achieving target to resolve blocking issues than non-blocking ones.

As for the SQI, a measurement period needs to be defined for the GQI as well. This can be monthly, quarterly, bi-yearly or yearly. Alternatively, the GQI calculation can be linked, whenever applicable, with the invoicing schedule. In any case, intermediate measurements of the GCI would also be taken, in order to show trends and assist in identifying possible future issues and take corrective actions.

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A.4 Quick-guide for new members of NSD

A quick-guide for new members of the NSDs can be found on [CIRCABC](#). The document contains information about the main tasks of NCTS, ECS, ICS and EOS NSD members, how to interact with DG TAXUD and where to find key information.

*** End of document ***

SLA